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AMERICAN BEE JOURNAL

APRIL 1939

THE PORTABLE EXTRACTING OUTFIT—E. L. SECHRIST

HIVING THE PACKAGE —G. H. CALE AND J. C. DADANT

BEES IN MICHIGAN ORCHARDS —LEON C. NIEB

FOAMING: IT'S ELIMINATION FROM HONEY—V. G. MILUM

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BOYD, WISCONSIN

AMERICAN BEE JOURNAL

The Oldest Bee Journal in the English Language

ESTABLISHED BY SAMUEL WAGNER IN 1861

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229 WALNUT STREET **CINCINNATI, OHIO**

American Bee Journal

Vol. LXXIX—No. 4 Hamilton, Illinois, April, 1939 Monthly, $1.00 a year

Watch Out for Starvation

NOW is the time to make sure that every colony is provided with sufficient stores to carry them to the beginning of the honey-flow. The winter, in most localities, has been rather mild with frequent flight. With ample stores winter losses should be light. It often happens, however, that in such seasons when the bees come through the winter safely, many are lost for lack of food in spring.

With active brood rearing in progress, stores are consumed with surprising rapidity, and the careless beekeeper is likely to find his bees starving before he is aware of their need. With the crop just ahead it is doubly unfortunate to lose the bees after the winter is safely past.

It is good insurance to give the bees more food than they seem to need. It is like money in the bank providing a safeguard against unfavorable conditions later on. Too often it happens that a period of cold rainy weather makes it difficult to feed and the strongest colonies may be lost because they consume more stores than the weak ones.

—ABJ—

Things to Think About

NEVER has there been a greater need for clear thinking on the part of the beekeeper than right now. Too many men who should be leaders confine themselves too closely to their home problems without thought of the public aspects of their business.

As a result we find some men making a real success of honey production without making any contribution to the solution of the problems of handling and marketing the crop. Too often they come to market with production measured in carloads and take what the market will offer. Larger and larger production without similar effort toward the improvement of markets is resulting in low prices and a demand insufficient to move our honey into profitable channels of consumption.

In our March issue we commented on the careless handling of honey that has lost valuable outlets. The result of one man's carelessness may be the permanent close of a substantial market. Just now we need emphasis on careful grading, proper handling and more efficient distribution. Too long the industry has neglected the problems of placing the right grade of honey within the reach of every consumer. Bakers who would use honey if the quality they require was readily available, find it easier to buy something else. A survey of large city markets reveals the fact that thousands of housewives find it impossible to buy honey in the stores where they secure their regular supply of food products. If the honey

Yes, It Is a Fine Gesture

In the February number of Western Canada Beekeeper, (Frank H. Williams, editor) we read: "The magnificent role played by the 16 southern package beemen in subscribing $2,600 worth of stock to the Cooperative (Manitoba) in the shape of donated packages of bees, should cause a blush of shame to mantle the brows of many a Manitoba beekeeper. These men have displayed a faith in the projected enterprise woefully lacking in some quarters locally."

Yes, that is a fine thing to do, and this cooperation seems often to be displayed among our southern friends.

♦

Shameful, Fellow Beekeepers

It seems to me Walter Hull makes a devastating remark when he says: "Only the veteran honey producer .... can eat honey regularly in place of sugar with an easy conscience." That is one of the troubles with beekeepers. They talk about "eating more honey," but will not put honey on their own tables. They say it is more healthful than sugar, but feed their children sugar instead of honey to save a penny or two. How many tables of beekeepers in the United States will, on their next evening meal, have no honey on tap? A shameful number, fellow beekeepers.

Allen Latham,
Connecticut.

♦

How About It?

Beekeeping today is built too much on gadgets and not enough on bees.
F. B. Paddock in Kansas.

♦

Melon Pollen

From "The Furrow," published by John Deere Plow Company, comes the following: "In a solid block of 1,000 acres of watermelons, more melons were harvested near the edges than in the central part of the area because bees had been more active at the edges in carrying the pollen of watermelon blossoms."

(From John Maendel.)

Large 1938 Crop in Canada

The 1938 Canadian honey crop was the largest on record. A preliminary estimate places total production at approximately 34,000,000 pounds, which is 12,000,000 pounds, or 56 per cent, more than the short crop of the previous year. It also exceeds the low average production of the five years 1933-37 by 10,000,000 pounds, and the previous record crop of 1931 by 4,000,000 pounds.

Weather conditions during the fall of 1937 and throughout the 1938 season were favorable for the growth of nectar-secreting plants and although the prolonged wet weather during the summer curtailed the gathering of nectar, increases over production in the previous year were recorded in nearly all provinces. The crop was generally of good quality.

Production of Honey in Canada

Year	Quantity	Year	Quantity
1929	28,048,000	1934	24,270,000
1930	29,549,000	1935	24,291,000
1931	29,666,000	1936	28,234,000
1932	19,470,000	1937	21,734,000
1933	22,916,000	1938	*33,975,000

*Preliminary.

Production, by Provinces, of Honey in Canada

Province	1937 Lbs.	1938* Lbs.
Prince Edward Island	16,000	11,000
Nova Scotia	50,000	65,000
New Brunswick	80,000	60,000
Quebec	6,589,000	5,214,000
Ontario	6,520,000	12,648,000
Manitoba	6,749,000	9,599,000
Saskatchewan	1,143,000	2,794,000
Alberta	2,160,000	2,000,000
British Columbia	1,427,000	1,584,000
Total	21,734,000	33,975,000

Although stocks were low in the late summer months before the new crop came on the market, heavy supplies from the 1938 crop have resulted in average prices of from one to two cents per pound lower than in the fall of 1937.

(From "Foodstuffs Round the World")

♦

Feeling Good In Tennessee

Beekeepers here have something to feel good about already. Two years ago there was a heavy, above normal rainfall for January, followed by an above sixty pound average per colony yield in the spring honeyflow. This year's January rainfall almost came up to that of 1937, so, if there is anything in it, I'm looking forward to spring.

Carl M. Teasley,
Tennessee.

♦

Michigan Institute

Michigan has formed a Honey Institute of its own and it has been incorporated.

W. E. B., Detroit,
Michigan.

Have you set up as a definite part of American Honey Institute, Michigan?

producing industry has fallen behind other agricultural enterprises it is because so little attention has been given to the problems of handling and distribution of our product.

—ABJ—

A Distinguished Visitor

WE are informed that Dr. J. Tennant, president of the Scottish Beekeepers Association plans a tour of the United States and Canada starting in May. Dr. Tennant is reputed to be a highly trained scientist and a fluent speaker. We hope that those who are planning bee meetings in May and June will take advantage of the visit and invite Dr. Tennant to be present when he can find it convenient to do so.

Too often when distinguished visitors come from abroad we do not know of their coming in time to enable us to change our schedules to take advantage of their presence. His home address is 4 Claremont Gardens, C 3, Glasgow, Scotland.

—ABJ—

Truth in Advertising

THERE is a tendency on the part of some beekeepers to make claims for honey which may not be capable of proof. Honey has long been recognized as a food product of high quality and there would seem to be little reason to make extravagant claims for it either as a food or a medicine. In these days of high pressure selling one hears so much over the radio concerning this or that commercial product, the honesty of which he questions, that he is likely to grow suspicious of products making extravagant claims.

—ABJ—

The Biggest Job

IT is interesting to note the way modern industry is organized. Every well established institution maintains a research department to keep its products abreast of the times. Research, production, and sales are all in high gear but because of high pressure competition the biggest job is sales. The big rewards go to the efficient salesmen, since without sales there could be no return from either research or production. It is probable that most articles now in demand are sold on a basis that sales cost equals manufacturing cost or may even exceed that figure.

No wonder honey sales lag. Immense sums are spent in advertising the sweets with which the beekeeper must contend. Corn syrups, molasses, candies, jellies, and other sweets are constantly brought to the attention of the consumer while there are few reminders that honey is still the best as well as the oldest sweetening agent.

There is very little research in progress designed to solve the beekeepers' problem. All efforts are centered on production, and when the crop is ready the beekeeper waits for a buyer and takes what he is willing to pay. With a research program commensurate with our needs and a sales program on a scale conducted by competitors of our product, honey would move into trade channels

with much greater freedom and prices would be materially higher. There are few products of the high quality of honey which sell at a comparatively low price.

Until there is a reorganization of our marketing machinery prices must of necessity, remain low; for the packer must depend entirely upon his own efforts to move his goods.

—ABJ—

Dr. Miller's Real Success

FORTY years ago, in the British Bee Journal, appeared an account of a visit of Thomas B. Blow, an Englishman, to the home of Dr. C. C. Miller. At that time Dr. Miller was one of the leading American beekeepers. The significant thing about a long account of the visit was this statement: "Dr. Miller is one of those men who like to enjoy life as it comes along—he wants to enjoy it right here, and strongly objects to that class who 'never is, but always to be, blest.'" Statement is also made that Dr. Miller had found happiness and enjoyment and allowed the cares of the world to rest but lightly upon his shoulders.

Alas, how few there are who find their happiness in the present moment. All too often we find folks looking far into the future to some distant time when their dreams are to come true. Miller found his happiness among his bees, and his regular work brought his greatest pleasure, if we are to believe the accounts of those who knew him then and the evidence found in his writings. Happy is the man who finds joy in his day's work.

—ABJ—

Honeybee Holds Key to Prosperity

IN a recent letter to this office, Dr. J. N. Martin, of Iowa State College of Agriculture, tells an interesting story. He relates that scientists in Europe solved the problem of increased seed production of clover by the simple expedient of adding boron and potash to the soil. The result was increased nectar secretion in the flowers and this in turn attracted the bees in such numbers as to secure pollination of the bloom and a greatly increased set of seed.

It is a well known fact that the honeybee holds the key to the prosperity of a large group of farmers. Without her visits the flowers fail to become fertilized and failure of the crop is the result. Anything which increases the yield of nectar serves to attract the bees.

Perhaps the decline in soil fertility may account for the failure of the honey crop as well as of other crops in many localities. The farmer may supply the deficiency in soil fertility but he cannot find a substitute for the services of the bees. With the disappearance of the wild bees which formerly were present in sufficient numbers to insure plant pollination, agriculture becomes more and more dependent upon the honeybees for this service.

In localities where there is much waste land where wild bees can nest undisturbed there is little evidence of lack of pollination, but in neighborhoods where every acre is used intensively their absence is becoming very apparent.

If improved soil fertility increases the flow of nectar, the beekeeper will profit along with the farmer as he will get a bigger crop of honey while his neighbor gets a better crop of seed.

Cost of Producing Extracted Honey in California

Technical Bulletin 656, U. S. D. A., by R. L. Adams, of the California Agricultural Experiment Station, and Frank E. Todd, of the Bee Culture Field Station, at Davis, covers a study of over 200 different apiary outfits, to find just what goes into the cost of extracted honey. Variations in cost are wide; costs per pound are considerably above the market offers for present conditions; yet in every region studied there are beekeepers making a profit. For thirty-four pages the authors go into details, with tables, and figures; worth your study. Copies may be obtained from the Superintendent of Documents, Washington, D. C. Price ten cents.

♦

Minister MacDonald Explains British Columbia Honey Importation

Statement made at the Western Producers' Conference in Winnipeg, Manitoba, that the Hon. K. C. MacDonald, Minister of Agriculture for British Columbia, had invited Manitoba honey producers to send 500,000 pounds of honey a year to British Columbia, is flatly denied by the Minister.

Mr. MacDonald states there must have been a misconstruction placed on correspondence which the department had with Manitoba producers. British Columbia he explains, imports about 500,000 pounds of honey annually to supplement the local production of 1,500,000 pounds. Most of this imported honey comes from Ontario.

While there is no barrier to Manitoba honey coming to British Columbia, he states his department has not extended any invitation to ship honey from any point to compete with British Columbia producers, who are steadily stepping up their output.

F. H. Fullerton,
British Columbia.

♦

Air Drainage for Apiary Site

That picture of an apiary site (Page 127, March) condemns it for me. All right if the bees are to be cellared but bad for outdoor wintering. Why? Because there is little air drainage. For good wintering an apiary should have the ground slope away from it to cause air circulation so that the bees will stay quiet and combs will not get moldy.

Allen Latham,
Connecticut.

♦

Get Up Close

The closer the bees are to the plants the more efficient the pollination.

F. B. Paddock in Kansas.

HONEY GETTING

Portable Extracting Outfits

By E. L. Sechrist,

Tahiti.

WHEREVER roads are good, and particularly in regions that are well cultivated and populated, the central extracting plant is advisable; but for isolated or rough mountain locations, or where, for any reason, transportation of supers filled with honey is difficult, a well planned, portable outfit gives good satisfaction.

A portable extracting house may be small and compact and yet very convenient, if proper consideration is given to its construction and the same principles which have been suggested as necessary in the usual extracting room are followed: conservation of space and convenient arrangement of apparatus are even more necessary in a portable where every inch of space must be used to advantage.

A portable extracting outfit may be a small simple one, which can be loaded on a truck or even on a wagon, and set on the ground at each apiary. It need not weigh more than 150 pounds. Sometimes conditions are such that extracting can be done in the open air; or the work may be done in a tent eight by ten feet in size, or a small cheap house may be built at each apiary.

A four-frame extractor having fixed comb baskets is ideal for this outfit. It is light in weight, small in size, and cheap. One who has never used such an extractor will be surprised at the ease and speed with which combs may be reversed by hand. There is little to get out of order about it and no need to worry about breakage or trouble a long distance from home. Only hand power is required.

The uncapping can consists of two tubs, one of which will slip down inside the other about an inch. Cut out the bottom of the upper tub, leaving about an inch all around and solder in a hardware cloth bottom of one-fourth inch mesh. A strip of board three inches wide to run through the handles of the upper tub and serve as a rest for frames when uncapping, completes the uncapping can. Use a plain, unheated uncapping knife.

A galvanized can about a foot in diameter and thirteen inches deep with a honey gate at the bottom catches the honey as it comes from the extractor. Over the top of it is tied a square of cheesecloth to do the straining, and to keep out the occasional stray bee. This can holds a little over five gallons and whenever it becomes full, a can is filled with honey. Or, as shown in the second photograph, a settling tank may be set in a hole dug in the ground and the cans filled from the tank. This serves very well in dry country and dry weather.

Because the honey is uncapped and extracted while warm from the hive, the unheated knife and simple strainer work very well. If fancy honey for bottling is wanted, the honey should be strained again at home through a strainer of a better type. Ten gallon milk cans are strong and are desirable for hauling honey home.

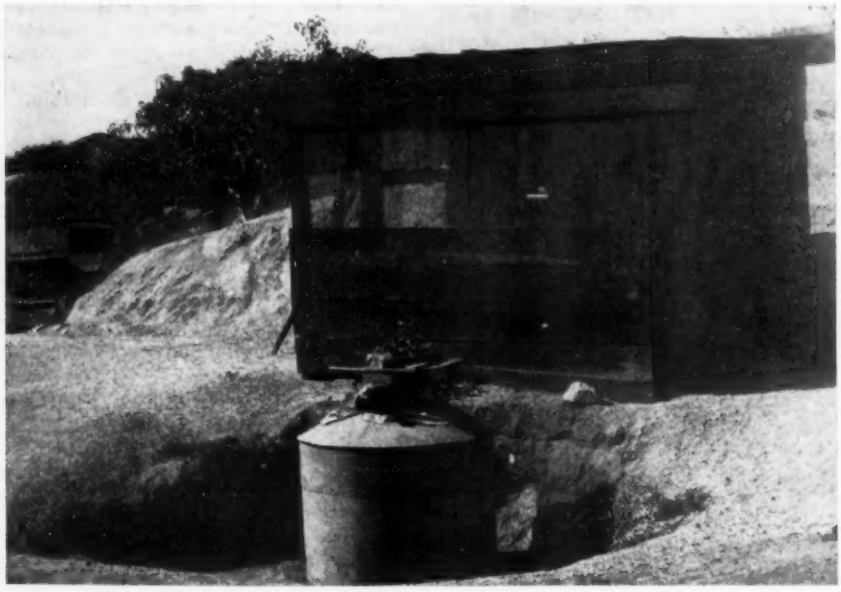
The uncapping tub will hold all the cappings for one day, but the honey which drains through into the lower tub will have to be emptied several times. Cloths should be provided to tie over extractor and tubs to keep out bees and dust when they are not in use.

An outfit like this serves very well for the small operator who has a home apiary and one or two outapiaries; but the honey getter who wants to extract five hundred gallons or more in a day needs different equipment.

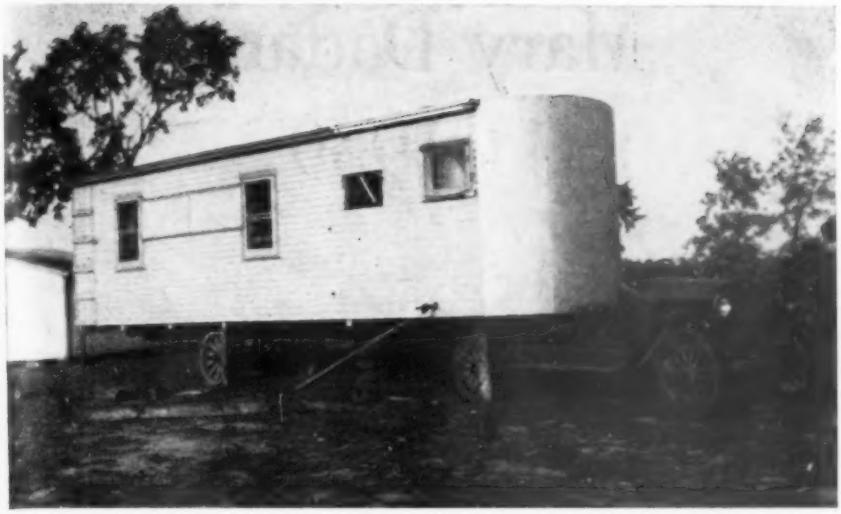
He may use a rather crude house built of any scraps of lumber, as shown in the photograph of the house, which has been set off the truck on substantial trestles. Empty hauling cans are carried to the apiary inside the house. As they are filled by the honey coming from the extractor, they are set on the truck until a load has accumulated. Then the truck takes them home and returns at the end of the day for the house and the remainder of the honey. A twenty gallon tank may be set on a couple of hive bodies and the hauling cans filled from that instead of directly from the extractor, and saves some time.

The small door for handling supers in and out is shown in the photograph. The full sized door is at other end of outfit.

It is better, however, to build the



An inexpensive extracting house. Settling tank in hole in ground, with deeper hole for can filling. Milk cans will do for hauling the honey home; five-gallon cans may not stand it.

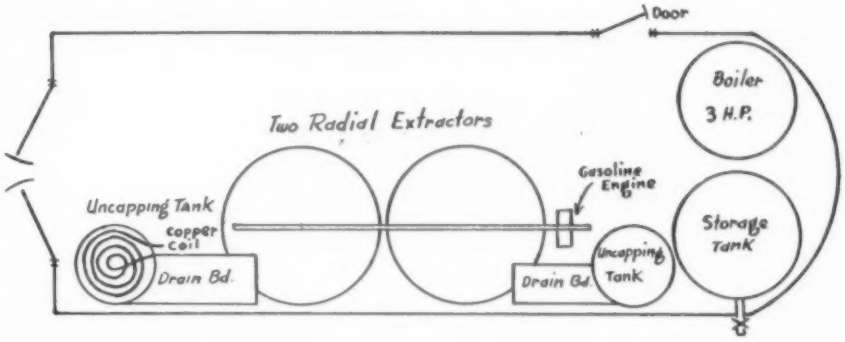


Fred Marquette's extracting van and the inside plan (North Dakota) (Photo and drawing by Roy Grout) Marquette built the outfit himself. Note that it provides for two 45 frame radials, a roomy place. This plant is taken to the yards and supers brought to it on a pickup truck.

portable outfit of large capacity on a four-wheeled trailer. It should be light in weight but solidly constructed. The trailer is hauled from one place to another in any way that is most convenient; by the truck which transports the empty and filled honey cans; by a large tank truck in which all the honey extracted in a day's work may be taken to the central plant; or by a team or truck hired from some neighboring rancher who also hauls the empty and full cans from and to the shipping point. When the apiaries are a long distance from the operator's home location, perhaps in another state, this latter plan may be recommended.

If roads are good, the portable house may have bottom, sides, and roof, all fastened together permanently; but if roads are rough and full of curves, as mountain roads often are, a canvas roof may be used and the sides and ends made collapsible and in sections, so that the various parts can be carried crosswise of the truck just behind the cab, the canvas or tarpaulin top, meanwhile, covering the outfit on the truck and keeping it free of dust. Another good type of house has the lower part of the wall, three feet high, of boards and studs permanently attached to the floor, while the roof, its supporting uprights and screen walls, is built separately and may be raised or lowered by wire cables running over pulleys in the upper ends of the studding of the lower part of the house. A crank with ratchet wheel completes the machinery. With the roof lowered inside the walls, the house is only half normal height and is not so top heavy that it sways crazily around curves.

Where adequate help is available at moderate cost, a hand power extractor of a good modern type has some advantages for use in a portable house over one powered by gas engine which uses valuable space and adds to the investment. Moreover,



while quite reliable, gas engines do at times give trouble; and the extractor should be one which can be used by hand in an emergency.

The large radial extractors are not generally used in portables, partly because of their size, but also because, when used to extract combs coming directly from the hive, breakage of combs is too great. The wax being warm and soft, the combs are easily crushed, particularly if not well fastened to the bottom bars. Not until combs have been off the hive long enough to lose the natural heat of the colony, is the radial extractor at its best. Then it does excellent work.

Even when a non-reversible, four-frame extractor, or a six or eight frame reversible is used, care needs to be exercised, particularly when new, soft combs just drawn from foundation are being extracted. It is well to do the first extracting from foundation when the combs are only half drawn out. Some form of extractor which reverses the comb baskets without slowing up or stopping the extractor has advantages, particularly when an engine is used for power. The operator is much less tempted to extract all the honey from the first side of the comb before reversing, if he can reverse the combs safely with the extractor running at full speed. Extractors in which the baskets are easily removable for cleaning are especially desirable, making it possible to clean all parts of the portable readily at the end of a day's work.

Apiaries are generally of such a size that the extracting at one apiary can be finished in a day. Then the inside of the portable, which becomes more or less sprayed and daubed with honey, and all the apparatus in it, should be thoroughly washed, with a hose if possible, when the outfit is returned to headquarters at the end of the day. Any other course will soon result in a filthy outfit and may help to spread brood disease.

A water-jacketed extractor, or what is lighter and equally effective, a hundred feet of one-eighth inch copper steam pipe spirally coiled inside the wall of the extractor as described in HONEY GETTING, Section II, Part X, is almost a necessity if work is to progress rapidly in a portable at any other time than during very hot weather. When the weather is warm enough and the honey not extremely dense, all goes well; but if honey is cold and thick, the work will go slowly; and so little space can be spared, in a portable, for handling honey, that slow movement of honey cannot be permitted. Particularly does extracting of dense honey proceed slow-

(Please turn to page 178)

Mary Dadant 1854-1939

Mrs. Dadant with her great grandson, Bobby.

MRS. Mary Dadant, wife of the late C. P. Dadant, died at her home in Hamilton, Illinois, on February 22, at the advanced age of eighty-four years.

Mary Marinelli was born in St. Louis, Missouri, on August 9, 1854, and became the wife of C. P. Dadant on November 1, 1875. For a period of nearly thirty years they made their home on the Dadant farm, where the original bee supply factory was built. In 1904 they retired from active connection with the business and moved to a new home, overlooking the Mississippi River, in Hamilton.

Mr. and Mrs. Dadant were the parents of eight children, seven of whom survive them. There are three sons, Louis, Henry and Maurice, and four daughters, Mrs. Louisa Saugier, Miss Valentine, Miss Clemence, and Mrs. Harriette Bush.

Mrs. Dadant accompanied her husband on an extended tour among the beekeepers of Europe in 1913 and on occasional trips of a similar nature in America. Her greatest interest was in her home and children, and usually she preferred to avoid the discomfort of travel.

One of the early members of the Montebello Floral Society of Hamilton, she remained an active member for more than half a century; and her associates in this organization came as a group to attend her funeral.

Mrs. Dadant delighted in entertaining friends in her beautiful home, and visitors came from many countries to enjoy her hospitality. She took a keen interest in the affairs of the humblest of her neighbors and often gave her personal attention to the relief of suffering. An expert in all matters of domestic importance, she never lost interest in the details of homemaking, although her daughters had long ago relieved her of the need of personal responsibility.

Mr. and Mrs. C. P. Dadant at Bordeaux in 1913, on tour of Europe.

The funeral, very largely attended, was conducted from the home, with her grandsons as pallbearers. The body was laid to rest beside that of her husband in the Oakwood cemetery in Hamilton.

Freight Rates on Granulated Honey

In the proposals under docket No. 77 for April, 1939 of the Consolidated Classification Committee there appears a proposal which will result in higher freight rates on granulated honey in some cases.

The carriers propose to list comb, granulated and strained honey under one heading and apply the same ratings to all three, which will mean an increase from second to first class rating in all territories on granulated honey in less carlot shipments. On carload shipments, it will increase the minimum weight from 30,000 to 36,000 pounds on granulated honey, but allow a lower rating than heretofore applied on such carload shipments.

Those wishing to appear or file written briefs concerning this proposal of the carriers should address Consolidated Classification Committee at any of the three following addresses:

Office 1015—No. 101 Marietta St., Atlanta, Georgia. Room 401, 143 Liberty St., New York. Room 202, Chicago Union Station, Chicago, Ill.

—*ABJ*—

Well, How Much Shall It Be?

It is impossible to give you a five dollar queen for fifty cents.

F. B. Paddock in Kansas.

The large hive, at right, and ten-frame hive, at left, both with shallow supers. The large hive has a capacity about forty per cent greater than the ten-frame.

The author is discussing here the transfer of bees from the Langstroth, or so called Standard hive to the Modified Dadant or large hive. A beekeeper of much experience. Mr. Cole knows just how to do this. [Editor]

Transferring to Large Hives

By E. M. Cole,

Iowa.

I write for the small beekeeper, the backlotter, or the beginner who has his share of the grief that problems of bee behavior bring. The old-timer and the big time beekeepers will solve their own problems.

In transferring bees from small hives to larger ones, consideration should be given to the season, strength of the colony, honeyflow, and value of the queen. In this locality (southwestern Iowa) an early spring allows this transferring to be done the first two weeks of April, during dandelion bloom, provided the colony has four or five pretty good frames of brood and it is necessary at this time to make the transfer.

Here is the way Cole describes, small colony and hive, on top of the large hive, side closing strips, and combs inside, as article advises.

Remove the colony to be transferred from its stand and put in its place the large hive. Out of the large hive take two frames of drawn comb or of foundation (whichever it contains), and leave off the cover and inner cover.

From the small hive remove the bottom board and set the brood chamber directly on top of the large hive, one side of it flush with one side of the lower hive. Place a loose slat on the opening left on the opposite side. Take from the upper hive the two combs most nearly empty of honey, and put them away where they will not cause trouble from robbing.

Place the brood as near the center of the upper body as possible, leaving an empty space on each side, just outside the brood nest [that is, the frames actually containing brood]. In this space insert the frames taken from the lower hive. These frames are deeper than those in the upper hive and will project down into the lower hive body where the frames will have been arranged to permit these deep frames to enter the spaces left when they were removed.

You now have in front of you a large hive, filled with comb or foundation, with the exception of two empty spaces. On top of this you have the colony you are transferring which contains just outside its brood nest two deep frames projecting into the empty spaces below. I hope, also, that you have a good supply of honey and a honeyflow in prospect.

All this may seem complicated, but it is really quite simple, and the entire manipulation should be completed in less than five minutes.

What happens now depends on temperature, stores, honeyflow, strength of colony, but most of all on the egg-laying power of the queen. You may have or supply other needs, but whatever you do will be of little use without a strong queen.

Putting these frames, if they are filled with foundation, just outside the brood nest might be thought to slow up brood rearing. Actually it does so to only a slight extent, for the brood continues to expand toward end bars, bottom bars, and, on the outer combs of the brood nest, toward the top bars. Thus, the colony is protected by a solid, compact brood nest, in the event of a sudden cold snap.

In ten days or so you should find brood, and probably capped brood in those two deep frames. If there is a fair amount of capped brood and the weather is good, lift them out of the upper hive; set the upper hive off, and place the two deep combs in the lower hive body, turning the frames to bring the capped brood face to face. Put the queen below, shake the bees from a couple of frames in front to run in at the entrance, place the queen excluder on and the balance of the brood above the excluder. Do not fail to replace the two shallow combs you removed

originally and put away out of the reach of robbers.

Bees are slow to uncap honey and carry it down through an excluder. Therefore, if there is no honeyflow at this time, it will be necessary for you to move two well-filled combs of honey from the upper hive body down to the very outside of the lower hive body. Be sure to fill any vacant space left when removing a comb or the bees will do it for you by building down from the cover. Also, if the combs are left too long in the upper hive before the transfer is made, the bees may build comb on the bottom bars projecting into the lower hive.

You now have the queen and a fair amount of bees below and some brood to hold them there; but even if the weather holds favorable, this lower brood nest will expand slowly, as the tendency of the bees is to return to the brood nest above.

However, here is a manipulation that, given fair weather and a honeyflow or plenty of stores, will cause brood rearing in the lower hive body to increase in a way that will surprise you.

The next day, and every two days or so thereafter, lift a comb of emerging brood from the upper hive body and shake all its bees down in front of the hive. Use judgment in this: don't do it if you have a cold spell, and remember that in about eight days the brood above is about all capped over and needs only enough bees to protect it.

Do not neglect this shaking process; it will double and often more than double the rate at which the lower brood combs are drawn out and the brood nest expanded. There is a reason for this: the young bees, as they emerge, remain in the upper brood nest and are soon ready and waiting for larvae to feed; the queen is below ready and competent to keep a brood nest filled with brood but has no bees to care for it. As she cannot get above, and as the nurse bees will not go below except very slowly, you may have by June 1 a half or two-thirds colony obliged to build a good share of its strength on the honeyflow.

For those not wishing to tranfer until late May or early June there is a better method; but, used with judgment, the method I have outlined will transfer what is a very moderate colony into the large hive at the middle of April, combs drawn and bees and brood ready for the white clover harvest about the first of June.

I am writing of course, of my own locality, with its great variation of the date of the first spring honeyflow. I have known the first flow, soft maple, to come in the middle of March; and one year the first bloom was dandelion on April 24. But usually the first ten days in April find the dandelion in full bloom, to continue well into May, with about a ten day dearth of honey between dandelion and white clover. You must guard against this dearth by feeding, if necessary.

Assuming that you have plenty of stores, there is the question of pollen: usually we have plenty of pollen from maple and dandelion and enough over to give us too many pollen-clogged combs. The cold snaps of March, April, and early May, plus the ten days between dandelion and white clover are the times to get these combs cleaned up and, at the same time, keep your colony breeding in fine shape.

I have never succeeded in getting these combs emptied of old pollen merely by putting them in the brood nest. This pollen is brown in appearance and is never capped over; but if you will scratch this pollen with your hive tool, you will discover that, except for a thin brown face, it is light yellow in color. If you will go over the entire face of the comb, exposing the yellow color, the bees will use every grain of this pollen by white clover time.

—*ABJ*—

Everett J. McNay

Everett J. McNay, born November 28, 1910, in Oakhill, Clay County Kansas, died February 16, 1939, in Baton Rouge, Louisiana, after a short illness. While in high school he became intensely interested in beekeeping, and during this period of his education had about 50 colonies of bees as a commercial venture. He majored in horticulture, graduating in 1933. Since he was interested in apiculture he selected several beekeeping subjects, as electives and after graduation began graduate work in beekeeping, selecting a Master's thesis subject along the lines of improvement of honeybee stocks—a problem in bee breeding.

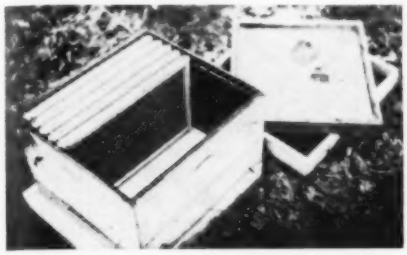
This particular field of work had just been opened a few years before by the research work of Dr. L. R. Watson, of Alfred University, Alfred, N. Y., whose technique of artificially inseminating queen bees is extremely difficult because of the delicate microscopic manipulations. The improvement of honeybee stock is difficult due to the fact that, normally, breeding takes place in the air and to a great extent out of the control of man. Mr. McNay had the courage and ability to attack this immense long-time problem. His ability enabled him to become one of only three or four scientists to perfect this technique or method of procedure to the point of making a fundamental beginning in the actual study of the factors involved in bee breeding.

Before finishing his undergraduate work at Kansas State College, Mr. McNay assisted Dr. R. L. Parker with the experimental beekeeping work in the Kansas Agricultural Experiment Station. He began his experimental thesis work in 1934 in artificial insemination of queen bees and bee breeding, and continued this work through 1935. During the summer months of 1936 and 1937, he was assistant to Dr. L. R. Watson.

In 1938 he was assistant in beekeeping to Dr. J. E. Eckert, Department of Entomology, College of Agriculture, University of California, Davis, California, and also to Mr. F. E. Todd, Apiculturist, Pacific States Bee Culture Field Station, Bureau of Entomology and Plant Quarantine, Davis, California. While in California he established a queen bee and package bee business making rapid progress in one year and had plans for expansion during the next few years. February 1, 1939, Mr. McNay accepted the position of agent to engage in the specialized work of bee breeding at the Southern States Bee Culture Field Station, Bureau of Entomology and Plant Quarantine and instructor in beekeeping in the Department of Entomology and Zoology, Louisiana State University, Baton Rouge, Louisiana.

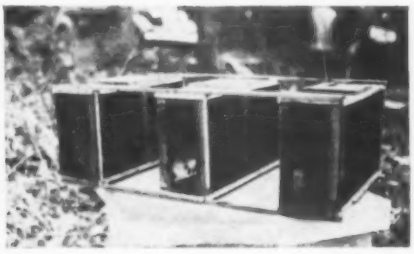
Science in general, photography, genetics and beekeeping have lost a true investigator and research worker with outstanding ability in his field of chosen endeavor of honeybee breeding.

Hiving the Package—By G. H. Cale and J. C. Dadant



Preparing the Hive

EQUIPMENT should be ready for the bees before packages arrive. Here we have five new frames with foundation but if you have some comb that you are sure came from hives that were with healthy colonies, use part combs and part foundation. Combs of honey, with pollen, give package bees a big boost.

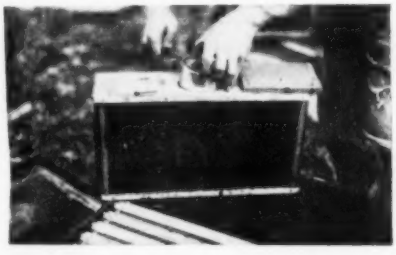


The Packages Come

They usually come like this, fastened in groups. Take off the slats to free the packages. Note any losses that may have occurred in shipment. If there are any large losses of bees make the express agent fill a bad order statement. The shipper can then make good the loss to himself, or to you.

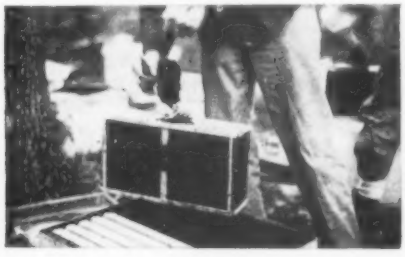
Getting the Bees Ready

Many paint the cage wire with thin sugar syrup which the bees eagerly consume. When they have taken all they will, they will refuse more and will cluster quietly. We prefer to use warm water, wetting the bees thoroughly with it, using a bee brush to distribute the water. Package bees hive best late in the day.



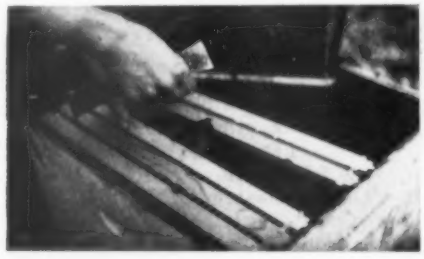
Ready for the Hive

Now we are ready to get the bees into the hive. The bees are quiet or wet down. Shake them to the bottom of the cage by jouncing the cage on the ground. Take off the wood cover over the feed can and remove the can, setting it to one side. The syrup remaining in the can may be used to feed the bees or put with any syrup you may later use from your own supply. Work quietly.



Out Comes the Queen

Usually the queen cage is hung inside the feeder hole where it is handy to reach. Remove it by the wire which holds it in place with the bees that may come with it. Look to be sure the queen is alive and apparently in good condition. If there is anything wrong with the queen report it to the shipper at once, meanwhile using the bees with some other package.

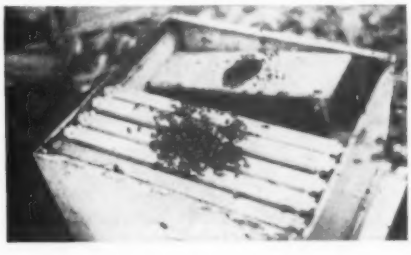


Into the Hive She Goes

Remove paper or cork that closes the candy end of the queen cage, and punch a nail or match into the candy to loosen it a bit so the bees will at once start to remove the candy from the cage. They will usually tend the queen through the wires until she is released and comes quietly out on the combs. During this period the bees should not be disturbed.

Bees to Protect the Queen

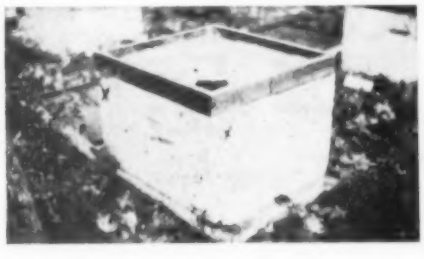
If you leave the queen cage hanging between its frames with no bees other than the few that were on her cage when she was removed from the package, she may not be well cared for, so shake some of the bees from the package on the frame tops where they will at once be with the queen. This also gets enough bees out of the cage so the others follow.



Put the Cage in the Hive

As the last step, put the package cage in the open side of the hive, setting it on sticks so bees already out are not crushed.

If there is no nectar available constant feeding will help the bees to establish the brood and feed the larvae. A frequent mistake is to hive a good package and then allow it to fight its way with no help.



Now for a Rest

With the feeder in place and entrance down to prevent robbing, the package is left to its own devices. We believe that much of the loss of queens so often reported with package bees, is due to disturbances. Leave them alone. After a week, see if eggs are present in the combs. If so, cover the hive. After two weeks give the rest of the frames.

Portable Extracting Outfits

(Continued from page 173)

ly if part or all of the straining is to be done in the portable.

But with honey heated moderately as it passes through the extractor, bringing the temperature to between 90 and 100 degrees, a special type of wire mesh strainer can be used to advantage. It will remove from warm honey all the waste except the very small particles, and they will rise to the top after the honey has been emptied into the storage tanks at the central plant. The honey will have lost little heat during transportation from the apiary; and, if the storage tanks are in a warm room, the honey will retain its heat long enough to become very clear. It should be emphasized that, whenever heat is used on honey that is to be run directly into the usual 60-pound cans, a temperature of 90 degrees is as high as should be permitted. A higher degree of heat, properly handled, will do no harm, but 60-pound cans of honey, at a temperature of 100 degrees, stacked solidly together, will have the honey in them perceptibly darkened. If honey has been heated to 100 degrees and has been cooled too slowly, or if it is reheated, as for bottling, it is almost invariably damaged in color and flavor.

To get well blended honey, as discussed in Section II, Part IV, of HONEY GETTING, the honey coming from a portable outfit should not be run directly into 60-pound cans for sale, but should be put into larger tanks at the central plant, where it will be blended and will have sufficient time for proper clarification.

There are two ways in which blending of honey from a portable may be accomplished readily, one being to have heavy, large mouthed hauling cans for transporting honey from the apiary to the central plant. These cans may be heavy weight 60-pound cans with not less than four-inch screw caps, or some style of creamery can may be used. These latter are durable, easy to handle, and probably the most satisfactory containers for such use. Or, second, the honey may be hauled home in 50-gallon casks, or in a truck tank, this preferably being a round oil tank of sufficient size to carry a day's extracting. It should have a manhole at the top, through which to inspect and clean it, and also a smaller top opening to take the output of honey from the pump; for if a tank on a truck is used, a honey pump in the portable becomes almost a necessity. If honey is carried home in cans, a pump is not used and, if the extractor is hand-powered, no gas engine is needed.

A four-inch diameter outlet at the lowest point of the truck tank allows honey to run out readily into storage tanks at the central plant, where the tops of the storage tanks must be lower than the outlet from the tank on the truck. If the house is not on a hillside, a sloping ramp of earth or timber may be built and the truck driven up on a platform of sufficient height. It will be necessary, when the tank is about half empty, to use a jackscrew or a pry to raise the front of the tank enough to make the honey run out quickly. Attempting to hold a heavy truck on a slope or run the rear wheels into a depression instead of using a jack may result in disaster.

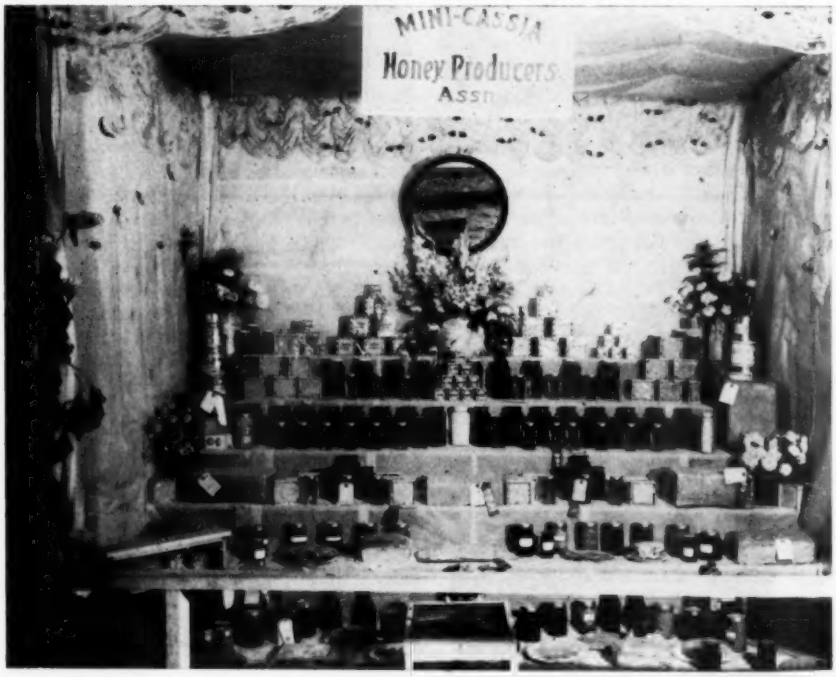
If honey is to be pumped from a portable outfit into a hauling tank, it is well to have an intermediate small tank into which the honey from the extractor or strainer may first run, so that the pump need not be operated continuously. This intermediate tank or sump is a shallow one suspended beneath the body of the portable. It may hold 150 to 175 gallons and will also serve for carrying honey to the central plant, if the truck tank does not hold all of the day's run. The pipe to the pump should extend into the lowest part of the sump, which should also have a drain at that point so that, when necessary, it may be drained completely. Honey should not be left in this intermediate tank until it becomes cold, as it will then be difficult, if not impossible, to pump.

If a water-jacketed extractor is used, a gasoline burner may be placed beneath it, the extractor being set on pieces of two-inch by six-inch stuff, so that there is a six-inch space beneath it. That part of the floor and these two by six pieces should be covered with tin to lessen danger from fire. If a steam coil is used inside the extractor for heating the honey, the steam may be furnished from the boiler which heats the uncapping knife.

(To be concluded with drawings in next issue.)

—ABJ—

Idaho Exhibit



THIS is a picture of the Boise exhibit of the Idaho beekeepers in November sent in by Frank Beach of Burley. He also sends a report of the November meeting, which unfortunately, we were not able to publish at the time.

Among the activities of the association, there is a plan for a cooking school with a demonstrator, (jellies, jams, cakes and fruits), the plans for which are being formulated so that the school can be held during 1939. This is a new move on the part of a state association. It should be done elsewhere too.

The new legislative committee is endeavoring to secure an appropriation of $1,200.00 for inspection work. The following officers were elected for 1939: Sam Neeley, President; R. E. Miller, Twin Falls, Vice President; Frank Beach, Jr., Burley, Secretary-Treasurer.

Benton Harbor Chamber of Commerce furnishes this picture of a roadside in blossoming time.

Fifteen Hundred Busy Colonies Make Michigan Quality Fruit

By Leon C. Nieb,

Michigan.

THIS southwest section of the state of Michigan is known the nation over for the exquisite beauty of its spring blooming period and for the annual Blossom Parade held at the twin cities. These twin cities of Benton Harbor and St. Joseph on Lake Michigan are surrounded north, east and south by miles and miles of orchards both great and small, the cash value of the crops of which runs into millions of dollars annually.

We are fortunate here in Berrien County in having one of the finest and most brilliant County Agricultural Agents in the state, in the person of Harry Lurkins, of St. Joseph, Michigan. For years he has been drilling into the minds of the orchard men the fact that for maximum crops of fine quality fruit they must have strong colonies of bees in their orchards at blooming time. All the progressive growers now adopt the practice either of keeping bees themselves, or renting from the many beekeepers within a radius of fifty miles. As nearly as I can determine, somewhere between 1000 and 1500 colonies of bees were moved into the orchards of this county last year and more will come in next year.

There has been some dissatisfaction among the horticulturists because of the weak condition of some of the colonies which they have rented. The average orchard man doesn't know much about bees but he does want to know if the bees he spends his hard earned money for are strong enough to do a good job of pollinization for him. To remedy this situation the writer last spring, in cooperation with the county agricultural agents of Berrien, Cass and Van Buren counties and some of the leading beekeepers of the section, organized a Tri-county Beekeepers' Association with the purpose in view of stabilizing rental charges, and of setting up a standard of strength of colonies to be rented to the fruit growers. Observation has shown us that in order to do good work a colony of bees must contain a **minimum** of 15,000 bees, or bees enough to hover, nourish and feed three **solid** frames (which means brood on five or six frames) of Langstroth dimensions of brood in its various stages. Package bees, unless they be five-pounders and installed three or four weeks ahead of bloom, have not found favor with the growers. A raw package of three pounds of bees installed at fruit bloom time is one of the poorest excuses for a pollinizing unit that was ever invented. Even a five pound package installed at bloom time is not as good as the average wintered over colony. But such a package installed three or four weeks in advance of bloom is equal to, and often better than, a wintered over colony. This past year quite a number of three pound packages were put in at fruit bloom time, but there was a great deal of dissatisfaction, and no more three pounders are wanted under any circumstances. This spring the man who pays to have bees put in his orchard is going to know whether or not they are up to proper strength or not, because the bees belonging to members of the Tri-county Association are going to carry tags from the association stating that each colony so tagged has been inspected by a deputy of the State Department of Agriculture and found healthy, and up to, or

above, the minimum strength. Colonies not tagged in this manner are going to go begging, for the county agents are going to put the fruit growers wise to the situation. This will tend to eliminate a few lots of "wildcat" bees moved into territory without official permits.

It may be of interest to readers of the American Bee Journal to know some of the history of the commercializing of the bee as a cross-pollinizing agent. I don't attempt to give here a full account of the matter but only a few highlights.

When C. P. Dadant took over the American Bee Journal from George York in April, 1912, one of his first editorials in the first issue he put out, May, 1912, was in reference to the relationship existing between the orchard and the bee. Here it is: "This is the month for spraying fruit trees. If you have neighbors who spray their trees while in bloom, you should urge them to desist and wait till the bloom has dropped. Not only would they destroy the bees, the best friends of fruit fertilization, but they also blight a part of the fruit by poisoning the pollen. The proper time to spray is both before and after the period of blossoms."

From then on reports appeared with increasing frequency in the various journals of the apicultural and horticultural industries. Outstanding among the literature relating to pollinization is a bulletin from Michigan State College, "Busy Bees Bring Bending Branches," by Don Hootman. In February, 1928, an article from his pen entitled "Bees Boost Fruit Crop in Michigan Orchards," appeared in the American Bee Journal. Here is one paragraph from this masterly article: "Last spring a Michigan fruit grower said to me, 'I never see any bees in my orchard and I always have apples.' He would not be convinced that insects were responsible for the transfer of pollen until he had erected at his own expense an 18-foot cage around one of the McIntosh trees in his orchard. This cage was covered with muslin during the blossoming period to exclude all insects. He anxiously waited until the muslin could be removed to note the result. Just eight apples "set" upon the trees within the cage, while other trees of equal size in the same row harvested from 12 to 15 bushels per tree."

The issues of the A. B. J. from 1928 up to the present are full of interesting articles on this subject.

The bees which are to be moved to the orchards are generally screened at the entrances in the evening and moved at once. If anybody wants some real fun he should try moving hives fairly boiling with bees in the dark, placing them one to an acre in unfamiliar orchards. But that isn't half as hard as the job of gathering them up or screening them in the dark upon their removal from the orchards. I well remember several instances of driving back and forth, up and down the hills covered with low branched trees peering into the gloom for the last hive in the lot which seemed to have sprouted wings and was playing hide and seek. On one occasion after spendng several hours in a large block of trees looking for the last hive in a lot of twenty I gave up in disgust and left with the nineteen. The orchardist declared that nineteen was all I had brought and that is all he paid me for. About two weeks later I received a letter from him which said, "I guess the joke is on me. We found the one hive in the middle of the orchard while we were spraying. Come and get them."

Rarely does a surplus honeyflow occur from fruit bloom, because there generally are but few days for the bees to work. Practically all the nectar gathered is used in brood rearing which makes for wonderfully strong colonies at the beginning of the honeyflow. We do occasionally have losses from spray poisoning and a few years ago we lost quite heavily from the bees picking up American foulbrood while in the orchards. When I started in to inspect this county I found sections that averaged 30% to 40% American foulbrood. Under the able direction of Don P. Barrett, Chief Apiary Inspector, the county has been well inspected, and American foulbrood is hard to find. As a surplus honey locality this territory is of little importance. One does well to average fifty pounds per colony. After fruit bloom I move my bees to greener pastures.

—ABJ—

Bees in His Pants

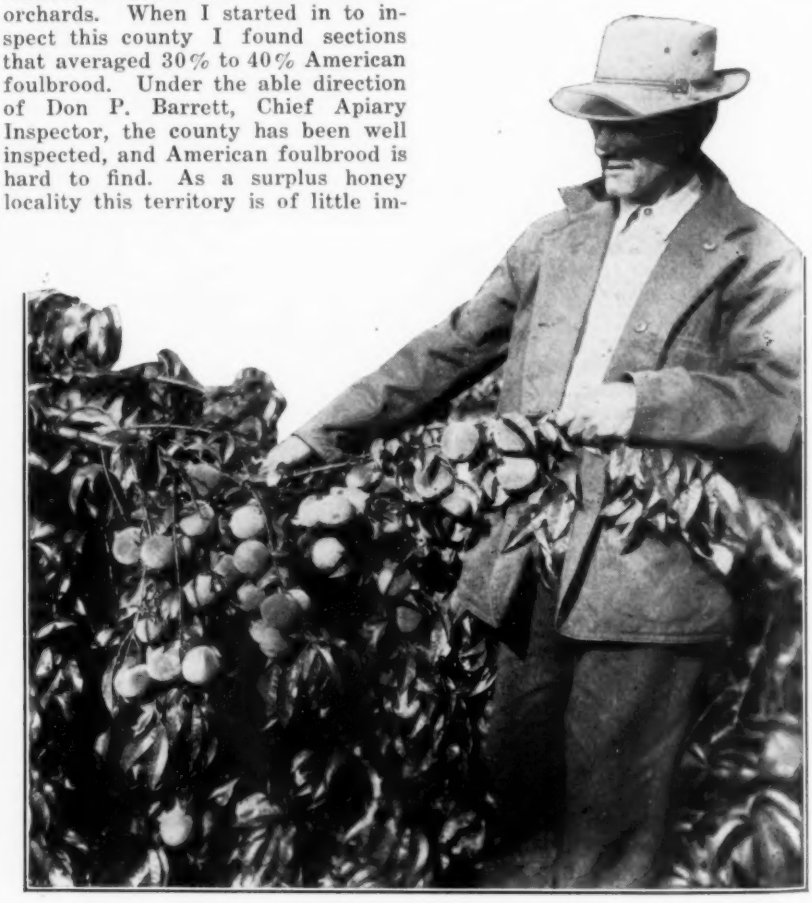
Because his bees neglected their job, Anton Kertesz, 52-year old farmer at Nyiregyhaza village, has just spent three days in a lunatic asylum.

When he found that his two hives did not produce enough honey, he put the insects in jugs covered with paper, embarked on a train with them for Budapest to consult the Apiary Institute there. En route the bees escaped and several slithered up Kertesz's trouser leg. The modest farmer induced fellow travelers to leave the compartment, proceeded to divest himself of his nether garments, which he shook out of the window. A gust of wind snatched the pants from his hands.

Along came the conductor, heard fellow travelers' stories, saw Kertesz pantless, and wired ahead promptly for the asylum wagon. The farmer's pleas were fruitless.

Kertesz has given up beekeeping.

(United Press release from Budapest, from Alfred H. Pering, Florida.)



H. M. Peck of Grand Rapids, Michigan, in his J. H. Hale peach orchard at harvest time. These peaches were the result of using bees and bouquets. (Photo from Michigan State College.)

Outyards

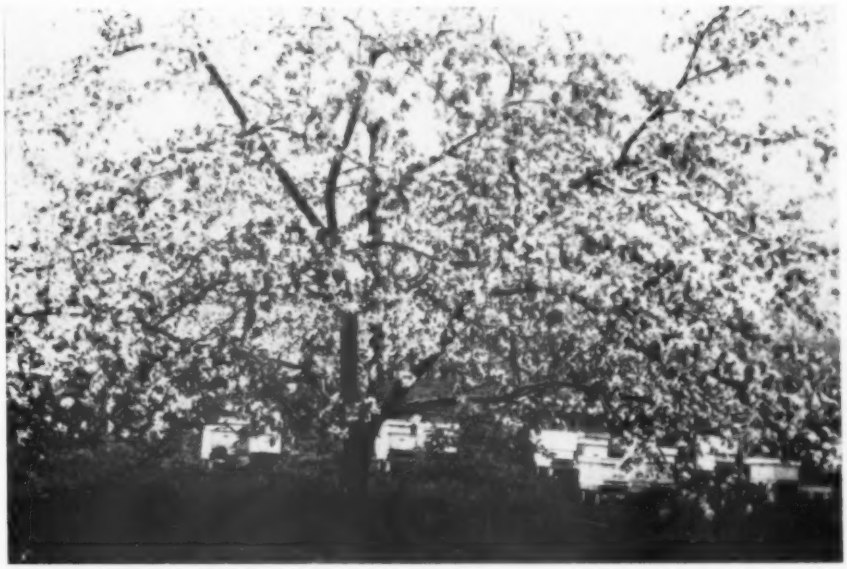
From D. C. Gilham, Pennsylvania.

D. C. GILHAM, Schuykill Haven, Pennsylvania, gives us these two beautiful pictures of bees in outyards in spring during apple bloom. He writes: "When the pictures were taken honey was coming in, with supers a half to three fourths full. We felt fine over the prospects of fruit bloom honey. After taking the pictures, we went home with the expectation of going to the bees again the next day to put on more supers.

"Then it grew colder and started to rain and, when the weather did clear up, we checked the colonies only to find the supers emptied and the blossoms gone, the end of our hope for fruit bloom honey. The crop of apples was good."

That is a good case of what so often happens in the orchard when the bees are busy with the bloom; cold, inclement weather, restricted flight, and with it the need to scatter the bees among the trees, either in small groups or as single colonies, so every least chance of flight will put the bees among all the bloom if possible.

ABJ



Report on Zofka Clover

A nursery consisting of 1,896 spaced plants of Zofka red clover was established at the Central Experimental Farm, Ottawa, in 1938. A block of 456 plants of a selection of Zofka clover made by E. H. Kellner was also established. This nursery went into the winter season of 1938-39 in a thrifty condition. The suitability to our conditions of Zofka clover and of Kellner's selection will depend primarily upon their winter hardiness.

The following is some data collected on corolla tube length from random groups of Zofka and Kellner in comparison with Ottawa red clover. The mean length of the corolla tubes was found to be as follows:

Zofka—6.6 plus or minus .81 mm.
Kellner—6.9 plus or minus .38 mm.
Ottawa—8.7 plus or minus .45 mm.

It is seen that Zofka is 2.1 mm. shorter in the corolla tube than Ottawa. This difference is significant as measured by the standard errors of the means. Zofka and Kellner are not significantly different for this character, but as indicated by the standard errors, Zofka is more variable in respect to this character.

Zofka and Kellner are only slightly hairy, while Ottawa is quite hairy. This character of hairiness is of considerable importance as it determines the plant's resistance to leafhopper attack.

Observations were made for a period of about 10 days during the blooming early in August. Honeybees at this time were working on white Dutch, alfalfa and sweet clover plots surrounding the nursery. On only one occasion did we notice a honeybee on Zofka. Bumblebees were seen working on the plants on each visit during this period.

The depth of nectar in some of the corolla tubes was noted. A few corolla tubes had a depth of 1 mm. while the majority had 0.5 mm. or less.

Since Zofka and Kellner did not bloom until early in August when conditions most favorable for nectar secretion had passed, the small amount as observed in these plants would not be significant.

In general, weather conditions at Ottawa during the summer of 1938 were favorable for luxuriant growth of all clover and also for heavy nectar secretion which resulted in a near-record crop for Ontario.

C. A. Jamieson,
Dominion Dept. of Agriculture.

Orchard Work For Bees Is Here to Stay

By WalterH. Hull,

North Carolina.

WHATEVER else is to be said about putting bees into orchards for pollination work—and plenty else might be said—it has become a permanent feature of the beekeeping industry.

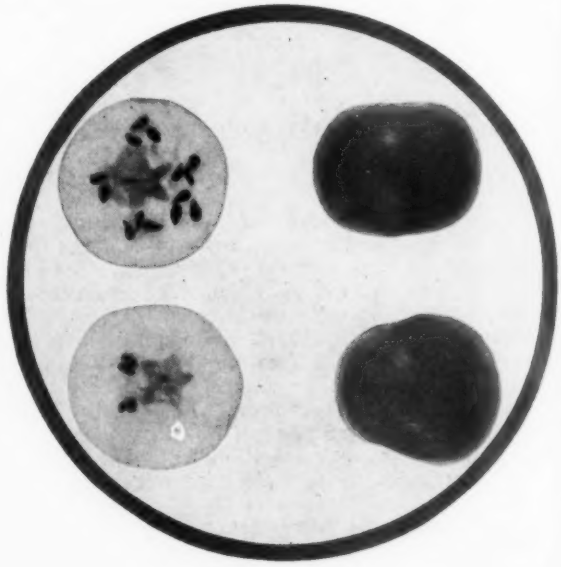
There are two outstanding reasons for this. One is that orchardists have learned that, as a rule, they cannot afford to depend on natural, or perhaps we should say casual, means of pollination. Exceptions to this rule are to be found in certain years.

Orchardists know that they need bees. In the past they have tried to supply this need themselves. It has been an expensive and impractical proposition and they are now looking more and more to the commercial beekeeper to supply the bees. Even if it was cheaper for the orchardist to furnish his own it would not necessarily follow that such a plan was best. For example, everyone knows that coal can be bought at the mines for a small fraction of what you pay your local dealer for it. Occasionally some one will buy a shipment direct from the mines but the great majority of us find it advisable to buy locally, even at a much higher price. If that is true of coal, which is about as simple to handle as anything could be, how much more is it true of bees, the handling of which calls for special knowledge and experience, and is far from simple to the uninitiated. Moreover, orchardists can generally rent bees cheaper than they can buy them, or try to keep them throughout the year. Many orchardists do not know that yet, but they are learning. In one season I burned one orchard apiary (on the owner's instructions, of course, the bees having been condemned by the state bee specialist). I took over the bees in another orchard on a liberal share basis; while a third orchardist practically gave me his entire outfit of bees, with all equipment, if I would only take the care of them off his hands.

In many cases, however, the orchardist has been forced to furnish bees himself, either because he did not know of any beekeeper who could supply them, or else was uncertain of the kind of service he would get. For, strange as it may seem, not all the people who keep bees are beekeepers in the technical sense of the word. Some know little more about the efficient handling of these temperamental insects than the orchardist himself would know.

And again, the beekeeper who is a beekeeper may fail to give complete satisfaction to the orchardist through lack of knowledge and experience in this particular phase of the business. I know that has been the case with me. I was doing the best I could, but my best was not, at that particular moment, as good as it might have been, perhaps not as good as it should have been. But this uncertainty in regard to the service and where to get it is a temporary condition. Just as orchardists are realizing more and more their need of pollination service, beekeepers are learning to supply this need in a competent and satisfactory manner which will insure to them the bulk of the business.

Not that all beekeepers will care to go into this line of work. On the contrary, there are so many of them who will not care for it that I doubt the business will ever be very crowded, at least, not for many years. One reason for this is the inability of orchard men to pay as



These McIntosh apples were picked in the Michigan State College orchards. Those at the top show complete seed development and uniform fruit. The trees from which they came were planted near many other varieties. Those at the bottom were from a twenty acre solid block that produced less than seven hundred bushels. Note few seeds and misshaped fruit. (Photo by Michigan State College.)

much for the service as it is actually worth, and this condition, due to a chronic overproduction of fruit as a result of heavy overplanting a few years ago, is likely to continue for several years more.

There is a wide spread belief, too, among honey producers, that moving bees to the orchards interferes with the honey crop. Whether there is good ground for that belief remains to be seen. There is always danger that some bees will be poisoned, although personally I have never lost any bees in this way, even when there were orchards on their range in which full spraying programs were carried out. A more serious problem, it seems to me, lies in the ever present danger of the bees picking up foulbrood from some bee tree or neglected box hive. Every time you move onto a new range you increase this danger by just that much.

To offset these dangers there is the certainty of a cash income, equal in amount to what you might realize from a light honeyflow, and coming at a time of year when many beekeepers are likely to be in need of cash. It seems likely that this orchard work will become a specialized phase of beekeeping, like queen-rearing and the package business.

My Experience With Caucasians

During the season of 1938, which was a very good year in my locality, I found the Caucasians were superior to other bees in my yard. I received more surplus and experienced less swarming per colony than with other bees. The honeycomb was whiter and more evenly filled. I would say that the Caucasian colonies produced twenty to twenty-five more pounds of extracted honey than the other bees.

I also found that on cool days there were more Caucasians working. They did not get out any earlier than any other bees on warm days but there was quite a difference in cool weather. One of the favorable things I can say for them is that they start brood rearing earlier in the season and build up two or three weeks sooner than my other bees.

One of the problems of which I was warned before trying them was that the Caucasians propolize heavily. This year, with Caucasians side by side with Italians, I find no more propolis among them than the others, excepting just back of the entrance which was left open up to the date of writing (Jan. 1). I do not condemn the Caucasians for this because it is their way of holding the heat in the hive by sealing up the openings.

During the winter it has seemed to me that there was more activity around Caucasian colonies than others during warm days. I plan on starting several more Caucasian colonies this year by purchasing packages of Caucasians from exclusive Caucasian breeders.

Roy W. Stone, Missouri.

—ABJ—

Selecting Bees For Packages

Mr. Sander's description in March, page 122, of a method of selecting bees for packages, with a screen device, is worth a careful study by all shippers. So far as I recall it is the only method I have ever seen in the Journal that is reasonable and that will make packages that are dependable. Mr. Sanders does not say who the producer is, but he cannot stay hidden long. His method is altogether too valuable. [This shipper was H. E. Graham, Cameron, Texas.]

Allen Latham, Connecticut.

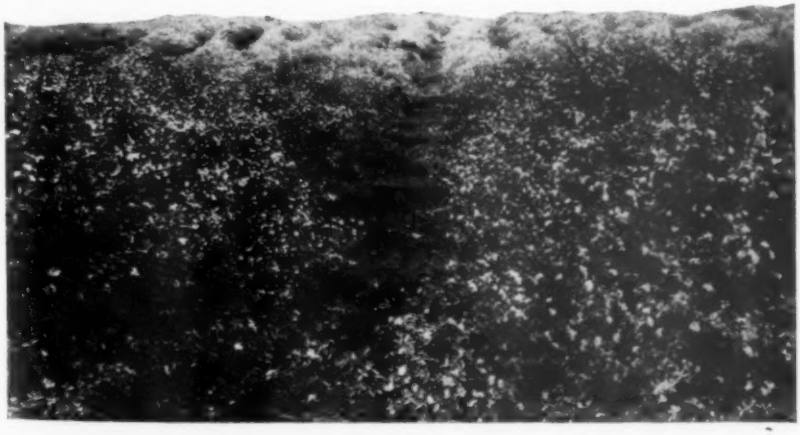
—ABJ—

Our Cover Picture

THIS month, over the country, orchards will bloom. What will the harvest be? If flowers receive the right kind of pollen it will be good; if not, it will be poor. So closely do the honeybees serve the fruit that they mean many times more to the orchardist than they do to the beekeeper. Commenting on this fact at the Washington Conference, Dr. Auchter said that fruit from the nation's 900,000 acres of apple trees depends in a large measure on the bees; even mixed orchards often fail to set without introduced bees. He even recommends the planting of self fertile or partial self fertile varieties so that bees may be used. Peaches that are self fertile do better with bees. Quinces although self fertile are much finer in quality with bees. He advises a colony of bees to the acre of trees; two or three to the acre for young orchards.

So it goes. We learn that many of the farm crops, now planted in large space, lack something for results; that "something" is often fertility of fruit or seed or vegetable. The bees may be the finest hired hand the farmer can ask.

Ethel Huffstickler does a good job of complimenting these flowers. She is a sister of the young lady in the beautiful pose on the front cover for May 1938 (Picture also from Edgar Abernethy of North Carolina.)



The native, wild insects cannot pollinate such a mass of bloom.

Overcoming Supersedure With Package Bees

By G. K. Hutton,

Michigan.

Package bees without queen supersedure insure a crop.

FOR the past fourteen years I have been interested in bees and commercial beekeeping in its different phases, such as honey production, queens and packages. During this period I have worked bees in nine different states of the Union, including both the North and the South.

Consequently I have handled and seen handled thousands of packages of bees in all sizes and styles of packages, both from the standpoint of the receiver and shipper. I have noticed that there is an increasing amount of trouble and extra expense to both the package shipper and the honey producer on account of the supersedure of queens within a short time after the package has been installed.

In a great many cases the honey producers place the blame on the methods of the package shippers, and many of the shippers place the blame on the installation methods of the honey producers. Perhaps a portion of the blame can rightfully be laid to both parties. During the past two years there has been a tendency to ship packages with the queen loose among the bees, instead of being confined to a small cage suspended in the shipping cage among the cluster. According to my experience, this is the greatest forward step toward the elimination of queen supersedure, provided this is honestly and properly done.

I would like to get it clearly understood that what I consider a satisfactory and effective loose-queen package is one that has been made up right in the yard with the required amount of bees and the queen from the same colony just the same as is received when one buys nuclei with the queen loose on the combs.

In a package of this kind the shipper knows what the queen is doing in the way of egg laying and the amount of brood she has before she and the required amount of bees are placed in the package. Most of the shippers claim that this cannot be done at the present price of package bees, because it takes the queen from the colony and leaves that colony in a queenless condition, making it impossible to take another package from that colony later on. From my own experience in package production, however, I know that it should be possible to work out a method whereby three or four three-pound packages of bees with these loose queens (mothers of the bees) can be taken from one and the same colony during the shipping season, and still leave that colony of bees in good condition for building up. In fact, I know of one large shipper in the South who has this system of loose-queen packages worked out and is advertising and shipping them in large quantities.

It has been clearly brought to my knowledge that some package shippers are claiming to produce and ship this type of package, but are merely shaking the proper amount of bees into a package and then introducing a queen that has been caged from a mating box 24 to 48 hours previous to the time of introduction to this package of strange bees, some packages of which may contain bees from two or more colonies. When a shipper makes up a package in this manner he is still following the old method of caging or confining queens in the small queen cage until shipping time. The only difference is that he is introducing the queen for the buyer of the package, under less favorable conditions than what the buyer himself would have after he received them for installing.

Possibly there are some buyers who cannot see what advantages this preferred style of loose-queen package has over the old style caged-queen package. During the past two seasons I have installed close to six hundred of these loose-queen packages and by keeping very careful records and definite check I found slightly more than 3% supersedure of queens. At the same time I have installed an equal number of the caged-queen type of package, and have had as high as 20% supersedure. This means not only a lot of extra labor and expense but also a loss to the honey crop.

Upon installing a package with a caged queen, one has the trouble of taking the queen cage from the package, removing the covering from the candy end and placing the cage between the frames, and after crowding over the frames he must place the package containing the bees into the empty space in the hive body. Then he must place the cover on and hope that when he returns in seven to ten days for examination, that the bees have released the queen some two or three days previously and that she has not been "balled" when the package was being removed and the space filled with the necessary combs. But upon installing the loose-queen packages that has been properly made up by the package shipper, one simply has to cut the screen from one side of the package and dump the bees and queen into the hive of combs, put on the cover and take home the empty packages. Less than 24 hours later he can examine those same hives and find the bees contented with the queen already laying. This queen is going to stay throughout the entire season, because the same condition exists in these hives as though you had shaken in to them a natural swarm.

It is a matter of common knowledge that when a queen from a package of bees starts laying immediately after being p'aced in a hive, that within 21 days young bees will be hatching, and these will take the place of old, disappearing bees that came in the original package.

From now on, all package bees that I install for myself will be those with loose queens, and I must be assured that those queens are mothers of the bees that are in the package.

From Our Honey Plant Gardens

Kent Wild White Clover

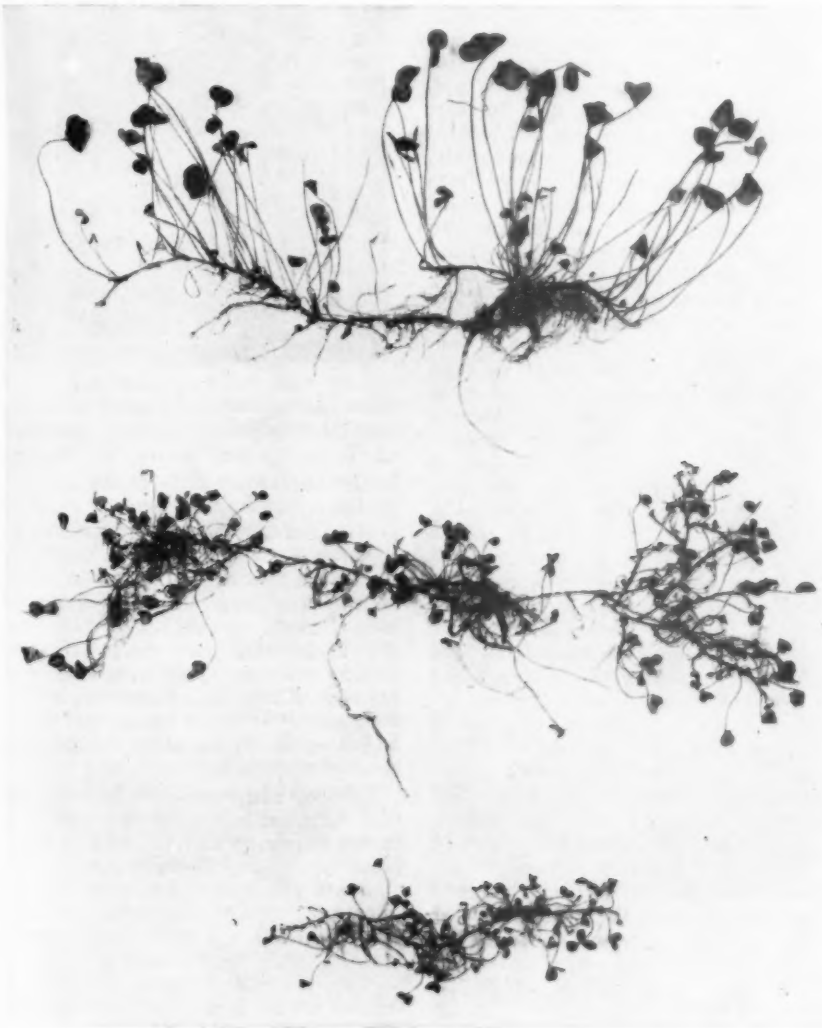
RECENT investigations indicate that much of the common white Dutch clover in midwestern pastures is biennial. A biennial flowers and sets seed in its second year and then dies, while a perennial lives on year after year. This may account in part for the great variation in abundance of white Dutch clover from year to year. Under favorable conditions it sets seed very freely and with sufficient moisture will replant itself quickly. With deficient moisture it may disappear here almost entirely for short periods.

In years past midwestern beekeepers depended principally on white Dutch clover for their honey crops. In more recent times, crops from this source have become less and less dependable until little white clover honey has been secured for several years. Had it not been for the spread of sweet clover many beekeepers would have been compelled to move their apiaries or quit the business.

Not long since it was discovered that in some New York pastures there is a white clover which is a true perennial. It has been identified as the "Kent wild white clover" and is presumed to have come from Kent County, England, a region famous for its luxuriant pastures.

In the spring of 1938 we secured seed of this Kent wild white clover and established a plot of it in our test garden. Since it was planted only last April it is too soon to tell much about its adaptation to midwestern conditions. It has grown luxuriantly and established a lush mat of young plants which were just coming into bloom at the close of summer.

Since the origin of the plant was in such a favorable environment, where there is an abundance of moisture there is some doubt as to whether it will thrive in our variable midwest climate where there are so many periods of extended dry weather. It is our purpose to test the plant along with others in the plots very fully to learn what its value may be to beekeepers of this region.



Comparative size of Ladino clover (top), common white Dutch (middle), and English wild white clover (bottom). Plant sizes reduced in photographing. (Photo from Leaflet 119, U. S. D. A., "White Clover", by E. A. Hollowell.)

Blue Flowered Sweet Clover or Balsam Clover

The blue flowered sweet clover **(Trigonella caerulea)** is found in the mountains of Switzerland and surrounding regions where it is grown as a forage crop by farmers in higher altitudes. The plant is an annual and would seem to have a place in the farm practice of suitable areas.

We secured seed from France and distributed small samples to several hundred subscribers for trial. Reports were generally unfavorable except in regions of cool and moist climates. A few reports from such localities indicated that the plant might have some value.

Our trial in Iowa was disappointing. The first season we sowed a small plot and left it to grow without attention as forage crops usually must do. It started nicely with spring rains and grew vigorously for a short time. With the coming of hot dry weather it turned yellow and soon died.

Our second season's trial was a plot sowed in drills in the garden and kept weed-free by cultivation. The result was but little different and left little doubt that the plant was not suited to a place in the midwest farm practice. We are discarding it from further test and do not expect to plant it again.

The Hardy Alfalfas

The alfalfa in common use in this region is the common alfalfa of Europe, **Medicago sativa.** It is a very valuable farm crop in this region but usually produces but little seed. The farmer is thus dependent upon other areas for his seed supply. Apparently it yields but little nectar under our conditions and because of this fact is seldom attractive to the honeybee. Here the plant is dependent very largely upon the honeybee for pollination, and lacking her visits fails to set seed.

It is highly desirable to find an alfalfa equally valuable for hay but which will yield a seed crop for the midwestern farmer. Thus will the beekeeper profit from a greatly extended area of bee pasture while his bees assure the farmer a supply of seed.

Since the yellow flowered Semipalatinsk alfalfa **(Medicago falcata)** brought by N. E. Hansen from Siberia has often been reported as

(Please turn to page 193)

Foaming: Its Elimination From Honey*

By V. G. Milum,

Illinois.

Milum is a shark at honey processing and storage problems. He promises more in a series of articles soon on honey storage conditions.

THE problem of reducing the amount of foam that accumulates at the top of containers of extracted honey or remains in suspension, giving a cloudy appearance, is a problem that confronts honey packers, especially if the honey is packed in glass. A proper consideration of certain conditions will help to eliminate a considerable amount of this foam.

Of first importance, is the necessity of making sure that the honey before extracting is fully ripe; because since sugar tolerant yeasts are nearly always present in honey, unripe honey may eventually ferment, which results in gas formation and consequent foaming. Likewise honey, though ripened by the bees, may later absorb water, especially the upper layers or the exposed surface in storage tanks if stored in a damp or humid atmosphere. Thus it is evident that it is a greater task for the bees properly to ripen honey in climates with general high humidity or at seasons of heavy rainfall. High temperatures and circulating currents of air established by bees and the wind tend to ripen honey and to prevent fermentation and foaming.

Even though honey is thoroughly ripened, if it is not properly heated to destroy the yeasts and melt the crystals, in most honeys, except those especially high in levulose, granulation usually results after a few weeks or months, dependent upon the sugar content and the temperature of storage. With granulated honey, there is apparently a partial separation of the sugars, leaving small portions of the honey in which the sugar content is somewhat reduced and the water content relatively increased wherein fermentation gradually sets in if the yeasts have not been previously killed by the heating process. Likewise, similar results may follow, if the containers are later opened, allowing the yeasts (as well as dextrose crystals) to float in from the air, or if the honey is not bottled while hot and sealed immediately. The latter condition may result from the practice of allowing processed honey, which has been heated, to stand for several hours in the settling tanks before placing it in containers.

Some variation is expressed by writers on the optimum temperature for granulation of honey, but the greater portion of the range of good granulating temperatures is between 50 and 65°F. Wilson and Marvin (1) of the Wisconsin Experiment Station, state that the range of temperature favorable for fermentation is 51.8 to 65°F., and that a temperature of 80°F. is safe so far as fermentation is concerned. Thus it will be seen that temperatures favorable for granulation practically coincide with those favorable for fermentation and consequently gas formation often first indicated by excessive foaming when later reliquefied. An unheated honey allowed to granulate may ferment unless stored at a temperature slightly below 52°F. where it will keep perfectly so long as kept at such a temperature. But when the unheated and granulated honey is moved to a higher temperature, such as happens when moved from the cold unheated honey house of the beekeeper to the packing room of the jobber or bottler where the temperature range is higher, trouble may follow. Many

Apparatus for reducing air bubbles in extracting honey. A, flat board for heating tank spout; B, strainer cloth (sugar sack toweling); C, supporting cone of wire screen; D, galvanized metal cone; E and F, troughs for passage of honey to level of accumulated honey.

cases have been reported wherein such honey soon showed evidence of fermentation where the higher temperatures permitted the growth of the yeast organisms in the liquid portion of the container of honey. Because of the rapidity of growth of yeasts only a few days of storage at a higher temperature after granulation, even in the honey house of the beekeeper, may cause fermentation with its gas formation and foaming tendencies which might not be readily detected until the honey is heated in preparation for placing in marketing containers.

Lothrop and Paine (2) have shown that different honeys show a variation in the tendency to foam and to form scum layers due to variations in the amounts of colloids which in general are the gummy noncrystalline substances in honey. Their experiments indicate that this is brought about because the colloids lower the surface tension of the honey, this tension be-

*Contribution from the Entomological Laboratories of the University of Illinois, No. 20.

(1) Wilson, H. J. and Marvin, G. E., 1931. The effect of temperature and storage on honey. Jr. Econ. Ent. 23:430; 24:589-97.

(2) Lothrop, R. E. and Paine, H. S., 1932. Colloidal constituents and effects on foaming and scum formation. Am. Bee Journal 72:444, 450.

ing increased by removal of the colloids by ultrafiltration. Systems of filtering which accomplish this end have been devised and described in the bee journals in recent years, but many beekeepers do not have sufficient honey to process to justify such an outlay. However, any beekeepers, with more simple equipment, can put out a desirable product that will have ready sale on the market. Some beekeepers actually claim that this ultra-clarified honey is decreasing honey sales, but there are evidently merits to both systems.

While some beekeepers may report that they occasionally have tanks of honey that show a greater tendency to foam than what they think are similar lots of the same honey, we venture to suggest that in most cases it is due to the formation of gas due to fermentation in such quantities as not to be recognized as such, rather than to a difference in the colloidal content. Only recently, a beekeeper wrote us that honey processed in the fall before granulation remained perfectly clear but that large lots more recently processed after granulation foamed and remained cloudy unless subjected to high temperatures for extended periods of time, which caused excessive discoloration and loss of delicate flavor. This case is actual proof of the general necessity of processing honey as soon after extracting as possible, thereby eliminating serious losses. Early extracting after the honey is thoroughly ripened followed by early processing not only serves to eliminate granulation and fermentation but the processing may be accomplished at a lower temperature with less danger of discoloration and loss of the delicate flavor of the original product.

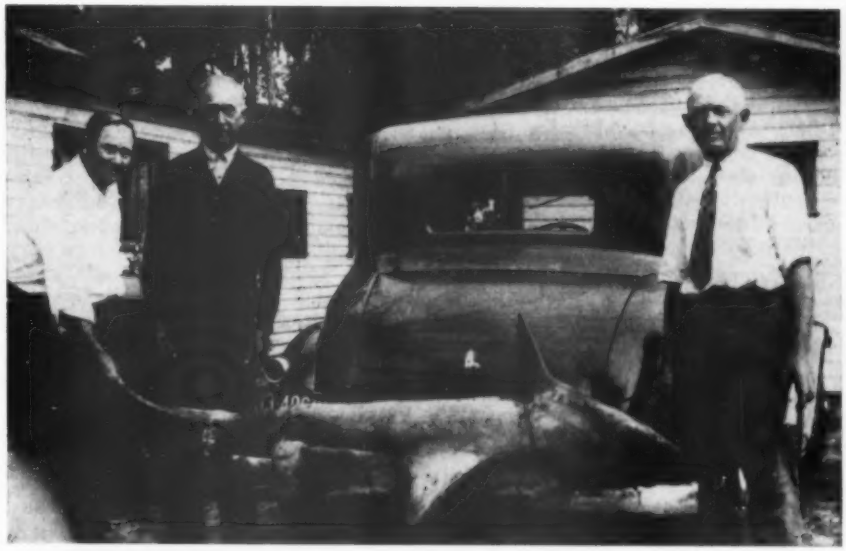
In addition to the fine air bubbles forming in honey as a result of fermentation, considerable air bubbles are incorporated into honey by the process of extracting. These might be eliminated by someone with a mechanical mind who could invent a variation of the present principle in extracting, which would prevent the throwing of fine streams of honey from the revolving frames in the extractor. Likewise honey pumps may be a source of incorporating air bubbles, especially if they are allowed to run at less than full capacity. If a sump or catch basin is used at the base of the extractor and the honey pump connected to this so as to pump only a full load, much accumulation of air bubbles may be eliminated. In the heating or processing tank, a slowly revolving agitator completely submerged in the honey should be used as the method of stirring the honey to prevent overheating of the outer portions of the honey by the surrounding heat.

The further addition of air bubbles may be eliminated to a considerable degree by using some such apparatus as pictured. This device is photographed as set up on a temporary wooden supporting frame, the inner margins of which correspond to the inside dimensions of a thirty gallon honey tank for use with which it was designed. The approximate position of the parts when in use are shown on the background of the tank itself, the gate of which is shown dimly at the left. **A** is a piece of flat board hung to the heating tank spout in such position as to prevent the hot honey dropping to the surface of the heated but yet unstrained honey and thus incorporating air bubbles. The strainer cloth **B** is a yard square sugar sack toweling with 48 mesh to the inch which, with its finer fibers, exceeds the requirements for U. S. Fancy Grade of extracted honey. The cloth is supported by a cone **C** made of galvanized wire screen with ¼ inch mesh which is in turn supported by the rim of the galvanized metal cone **D** and raised lugs or supports on the lower and inner side of cone D which are ¼ inch wide. These prevent direct contact of the cloth and wire screen with the metal cone. A one-inch flat rim at the top of the metal cone forms a firm support on the rim of the settling tank. As the honey passes through the strainer it runs down the cloth or the metal cone to the one-inch spout at its bottom and thence into open troughs **E** and **F** which allows the honey to seek the top level of the accumulated strained honey. Trough **F** is simply leaned against the side of the tank, while trough **E** is suspended by a wire hook on the lower edge of the metal cone near the outlet spout and a horizontal wire near the top of trough **F**. These two troughs may be replaced by any inclined plane which will allow the honey to flow gradually downward. The fancy rolled edge (added by the tinner) should be eliminated since it only serves as a place for honey to accumulate which makes it harder to keep clean and may thus become a collection point for crystals and honey darkened by age.

By the use of some such straining device any beekeeper who cannot afford a more expensive filtering system can strain heated honey without incorporating excessive amounts of air bubbles, for very little foam accumulates when such strainer is used. Then if the honey is bottled or placed in containers by a gooseneck very little foam or scum will accumulate on the surface of the honey. In the absence of a gooseneck filler, considerable foam resulting from the container filling process can be eliminated by allowing the honey from the straining tank faucet to run down the side of the bottle or pail.

ABJ

How Could You, Kildow?



A. L. KILDOW, formerly Inspector of Apiaries for Illinois, sends this just to get our goat. He says, we intimate in one of our letters to him that all the big fish he tells about catching in Florida get away from him, so the picture is to prove that he not only can tell about them but that he can also catch them. You judge for yourself. His letter reads: "Some of them do get away but this one didn't and another one ten feet, nine inches didn't. Did not bring it to camp; cut the head off and it just went into a gunnysack.

C. I. Graham styled himself a "mysterious, migratory, intoxicated bee king." So he was. And his wanderings would have made another volume like "Trader Horn" for some sleuthing writer. But he is gone and another colorful personage becomes a part of the past.

Death of a Pioneer

By Thomas C. Burleson,

California.

THE self-styled "mysterious migratory, intoxicated bee king of the Pacific coast" is dead. He was C. I. Graham, who died February 4, at 73 years of age in Colusa, California. It is likely that no other beeman has had such an interesting and active life. From the time of his birth, June 28, 1867, at Pella, Iowa, until his death he worked hard and was as busy as the bees he loved.

"Migratory" Graham, as he was known by the bee industry in the West, started moving about at the age of thirteen years when he migrated, with his parents, to Red Willow County, Nebraska, in a covered wagon. When he was sixteen he was advised by doctors to go to southern California for his health. He went and remained in the western states from that time on.

He found employment at the Newhall Brothers' ranch at Newhall, California, when he was about twenty-two. The ranch was located in the heart of the sage belt, and it was there that he got his first knowledge of bee culture; for at the ranch there were several hundred colonies of bees, leased on shares, and on Sundays and after working hours Charley Graham would go to the bee yards and watch the men going through the hives. He found a great deal to interest him in the work and in a short time took the Newhall bees on shares. From these bees in the season of 1897 Graham produced ninety-seven tons of water-white sage honey from six hundred colonies, and he soon started in the bee business for himself.

In 1920 Graham wrote in a letter to the Division of Bee Culture, Washington, D. C.: "I have operated bees in 32 counties in California and five valleys in Nevada. I have produced 1200 tons of extracted honey, and 12 tons of beeswax, and shipped 161 carloads of bees."

During the last few years Graham has been operating bees in both California and Yakima Valley, Washington; and even at his advanced age he was very active, always moving his bees from place to place and living up to his nickname.

He averaged four to ten moves a year, using a mule team in the early days. For years he shipped by train and once lost three carloads of bees through suffocation. Later he used a truck exclusively, and it was not only a familiar sight on the highways but a great nuisance to all gasoline station attendants. For Graham always moved bees with the entrances open.

In his youth he must have been very dapper and quite a dancer. From his diary of 1898 we read that he won a ten dollar prize for being the best dressed man present among four hundred dancers. The winter of 1903 he traveled as a chorus boy with a theatrical troupe, doing a buck and wing dance. His fellow troupers called him "Beeswax" and "Double-gaited Graham."

He also travelled, apart from his beekeeping adventures, in Old Mexico and the Argentine, although here, too, the "dear little industrious honeybee" occupied a great deal of his attention.

He claims to have been the discoverer of the jackass clover, writing in his diary: "I was the discoverer of jackass clover in 1900. I called it 'air plant' until I moved sixty colonies in my old lumber wagon and six mules. I turned the mules loose to feed on the abundance of wild grass; they did not return for three days in spite of much hunting on my part. The clover was dense and eight feet high so that the mules could have been only one quarter of a mile from the wagon. On the fourth morning my off leader, Abraham Lincoln, came leading the bunch back for barley. Since that time I have called the air plant 'jackass clover.'"

Migratory Graham had a very colorful life which was continually enlivened by his clashes with bee inspectors and horticultural commissioners. It was his firm conviction that the state Apiary Law was wrong, and he waged a long, losing fight to have it declared unconstitutional.

—ABJ—

Try This On Your Bakers

As we have said before these recipes are taken from bakers' publications, have been tried and tested, and you can pass them on to your baker so he can use them too. You will help in this way. Your baker will be pleased and you will have added market for your honey.

Fig Nut Bread

Heat to 130° F.

- 1¼ pounds of brown sugar
- ½ pound of shortening
- 3½ pounds of water
- 1 ounce of salt
- 2 pounds of honey
- 3 pounds of cut figs

Cool the above to 90° and add:

- 1½ pounds of whole wheat flour
- 4 pounds of bread flour
- 3 ounces of baking powder
- 1 ounce of soda
- ¾ ounce of chopped nuts

This is handled similar to Boston Brown Bread and is steamed and not baked.

—From American Independent Baker, Issue January 27, 1939.

Cleome as a Honey Plant

By N. Pankiw,

Manitoba.

Field of Cleome or spider flower in the prairie soil of Manitoba.

CLEOME, or spider flower, is an annual honey plant, native to the United States and Canada. It grows luxuriantly in the province of Manitoba, near the St. Andrews Locks, by the Red River, and occurs sporadically in western Canada. It is found as far south as Texas and is noted for its adaptability to all kinds of soils. If cultivated, it reaches a height of five feet and spreads widely, annihilating all other plants growing beside it.

Its erect stem branches freely, with alternate trifoliate leaves, very much like the other clovers. The flowers range from purple through pink to white and are very showy. It is very pretty growing along roadsides and could be used as an ornamental plant around homes and in gardens. It begins to bloom simultaneous with yellow sweet clover and the bloom lasts until late fall.

Cleome yields nectar very heavily in cool and cloudy weather, especially when the clovers do not secrete. Its flowers attract all kinds of insects, particularly bumblebees. I have seen on the cleome nearly all species of Bombidae, and six nests have been found near the cleome field.

In my home apiary, where about a hundred colonies are located permanently, the bees visited the cleome as early as five o'clock in the morning, and they continued to work on it until about ten o'clock (A. M.) when the clover began to secrete. The honeybees did not gather nectar continuously from cleome but only worked on it when sweet clover was not yielding. However, their activity was intensified because of the cleome blooming near, and as a result the home yard colonies gave a higher average yield than those in the outapiaries, where cleome was not available. Also, in the fall the home apiary had more frames of brood in each hive than those in the outapiaries, some colonies with as many as twelve to fourteen frames in late October. My friend, Brother T. Pinneault, of Otterburne, while visiting me was greatly surprised to see the colonies so strong in brood so late in the year.

The cleome is a great help to beekeepers. Sweet clover and cleome can grow side by side and could be harvested and threshed at the same time, for the seed separates easily since the clover seed is much smaller than the seed of cleome. The seed yield of cleome is heavy, and the plant begins to shed seed over the ground from ripening pods while the top is still in bloom.

I have harvested some seed which I shall sow this spring over a larger area, especially for the home apiary. As far as utility goes, cleome is principally a beekeeper's plant, but the dried leaves are readily eaten by cattle.

—ABJ—

Who is the Price Cutter?

By Ernest M. Bendure,

Pennsylvania.

I subscribe to the three leading magazines on beekeeping in this country and in nearly every issue someone is panning the price cutter. This is good. However, I object to the thousand colony beekeeper continually placing the blame for price cutting on the little beekeeper, and I would like to give the little beekeeper's side of the story.

In our county in Pennsylvania, we do not have a single full time beekeeper, but we do have a large organization of beekeepers who have from one hundred colonies down to five or six. We have a market for more honey than we can produce. We do not feel bad because outside producers come here to sell.

But here is the rub. A year ago, in the fall of 1937, our association passed a motion to have our secretary write letters to two large honey producers who were cutting the price to two-thirds of what we were getting. One of them did not answer, and the other wrote back and said that he would sell his honey for what he pleased.

Last spring, when our honey was ready, two of us who sell honey in this immediate vicinity, sold for 30 cents a pound. We had no complaints from customers, but as soon as the Midwestern honey came in, it retailed for 20 cents, so we had to cut to 25 cents and then to 20 cents.

I retail five pound pails of clover honey at 75 cents and sixty pound cans at 10 cents per pound, and my customers agree that it is a good bargain. Last summer, one of my sixty pound can customers bought 120 pounds of water white honey from a big beekeeper in Wisconsin for 5½ cents, freight paid.

Now, I sell more honey than I can produce and buy honey in sixties from the large beekeepers. Yet they charge me 7 cents and I have to pay the freight.

Just one more growl and I will be through. The last time I was in a nearby city one of the large superfood stores (not a chain) was advertising light honey to retail at 49 cents for a five pound pail, the honey coming from a large Iowa producer. Our principal crop is buckwheat which sells at 10 to 15 cents for a five pound pail less than clover, so I asked our middle western friend "Where does that put us?" I am in close contact with the buying public and I know the public would not only be willing, but anxious, to pay $1.00 for five pounds of clover honey if it were not selling for less just around the corner. I believe beekeepers are deliberately cheapening their own product.

—ABJ—

The Farmer's Profit

The farmer who grows sweet clover for seed profits $20.00 per acre as a present from the bees, according to Iowa demonstration records.

F. B. Paddock in Kansas.

Way Up North

Here is a view of a northern Saskatchewan apiary which shows what became of one of 100 packages of bees hived on May 4 (1938). The apiary belongs to Frank Pachenski, who says that his queens were excellent and that the average honey production for this apiary last year was 260 pounds per colony.

—ABJ—

This Beats the Duo Hive

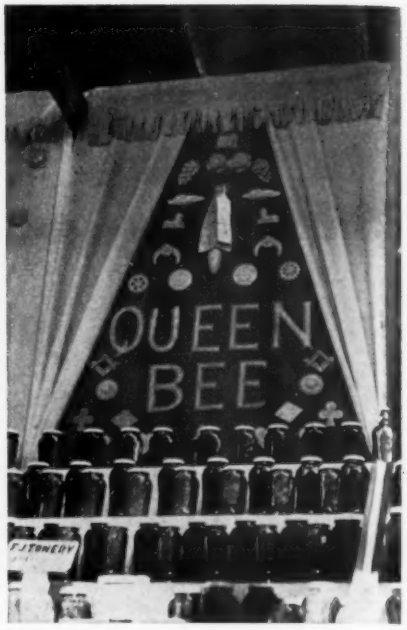
I notice in your Journal that you are testing duo hives. Forty years ago, many beekeepers tried a hive like this and did not succeed in getting strong enough colonies to secure a creditable surplus.

Try taking a Long Idea hive with twenty-one combs, with the entrance in one end, and a one inch auger hole in the other for ventilation. This hive takes two lots of supers, sitting crosswise on top. In the spring, put the brood and queen in the back end and twenty-one days before the honeyflow fill the hive with brood from other colonies.

Place on top of the hive a wood bound queen excluder. At each end on top of them, set supers for surplus. The supporting brood may be taken from strong colonies or from weak hives that are not going to get strong enough for the flow, or from hives set aside for the purpose. The addition of it will bring up your long hives at the peak of the honeyflow and will give you about four times the surplus of any duo hive that I have ever tried, and about three times the surplus from a single hive. They do not swarm.

G. M. Chenoweth,
West Virginia.

Oklahoma Displays



OUR Oklahoma Free State Fair closed in October, the best one, we think, we ever had. Here are two pictures of displays at the fair. The designs are made of wax, also queen bee and letters are of wax. I was superintendent and have been made a member of the legislative committee. Joe C. Scott, President of the State Board of Agriculture, thought the exhibits at the fair the best that have ever been produced.

J. W. Moore,
Oklahoma.

—ABJ—

Also, Way Up North

D. A. ANDREW, Farm Manager of the Provincial School of Agriculture at Vermilion, Alberta, sends a picture of the bee yard there taken last August. Vermilion is in southeastern Victoria, and east of Edmonton, three hundred miles north of the International border. The 20 colonies in 1938 produced an average of 185 pounds per colony. Note the various types of wintering cases.

The gentlemen from left to right are: Hon. D. B. Mullen, Minister of Agriculture; J. R. Sweeney, Deputy Minister; S. H. Gandier, Principal; and D. A. Andrew, Farm Manager.

Getting Acquainted with Honeybees

WITH an observation hive, these students are certain to enjoy their biology or nature study. It is first hand information. They do not have to take it cold from a black and white page. Science Departments, Vocational classes, and 4-H Clubs find the observation hive a facination. (Even the teacher does.) During the spring months and just before things outside are along to the point where field trips are more important, it helps to add life to a dull winter course. This group is probably like most of those who study the honeybee in this fashion, every face showing interest, and certainly little attention on anything but the subject. The picture was furnished by H. A. Insinger of St. Charles, Missouri and is of a group of Lindenwood College students.

—ABJ—

Japanese Buckwheat in Brazil

D. Amaro van Emelen, Sao Paulo, Brazil, sends this picture of a field of buckwheat, built up from an original small handful of seed sent by a Japanese beekeeper. The honey is dark and strongly flavored but, Emelen says, "fine for honey cakes." We have had honey from it here in Illinois from Ross Morrill, of Batavia. It is lighter than common buckwheat and we think superior in flavor and of much better quality.

Out of the Cellar

U. J. Ashbacher of Lansing, Iowa sends this picture of himself coming from the cellar under the house with a colony of bees in the spring. Many beekeepers will go through this work at the start of the new season.

When bringing the bees out, they should be disturbed as little as possible and put down quietly where they belong, and if possible, a day chosen when flight will not be immediate, as there will be less drifting.

—ABJ—

Protection Against Bears

In mountain locations California beekeepers are finding much difficulty to protect their apiaries against bears. Bears are proverbially fond of honey and serious destruction often occurs when apiaries are placed in locations where bears are common.

The electric fence has proved to be a good protection against the bears and a recent article on the subject by Tracy I. Storer, George H. Vansell and Ben D. Moses, appeared in the Journal of Wildlife Management. (October, 1938.) The article gives results of different kinds of electric fences tried for this purpose.

—ABJ—

Not Mad, But Sore

The dog, whose antics led residents to summon armed police, wasn't mad, the officers discovered, but he was plenty sore. A bee had stung him.

(Press release sent in by Alfred Pering, Florida.)

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Untested queens .55 each
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MOTT'S NORTHERN BRED ITALIANS
Package bees, queen introduced before shipping, at agreement price, from Alabama. Michigan bred queens, April, May, $1.00; 3 $2.50; 6 $4.75. June, $1.00; 2 or more 75c each. Select Tested, $2.00, $3.00, $5.00. Virgins, 40c; 3 for $1.00. (day old queens). Circular free.
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Those Serve Yourself Honey Stands Again

By Wendell T. Card,

Pennsylvania.

SELF-HELP honey stands are not new but here is a feature I have not seen described elsewhere.

I do not live on a through road. The stand here illustrated was set up temporarily in a field belonging to my father, fronting on a main highway. It was one-half mile from my home so was entirely untended through the day. Each morning I opened the display case and arranged the supply of honey. Each evening on my way home from work I closed the case and took home the money—if any. Change was left each day in a one-half pound glass honey jar bearing a plain label on which were the words, "Card's Cash Register (Pat. applied for)." The price of each article was plainly marked.

Behind the honey in the picture may be seen a set of four placards, giving some simple facts about bees and honey. These were not made up just for this stand. They are some I had printed to add interest to grocery store counter displays.

For advance signs I used two neat, white beehives placed thirty yards apart in a neighbor's field, some 150 yards down the road from the stand. On one hive was the word "Honey," and on the other, "Just Ahead." A short distance behind the stand another hive bore the words, "We make it; we know how." (These hives had been discarded as too wobbly, but, newly painted, could not be told from a perfect hive at thirty feet.)

One night a heavy wind blew the stand over and scattered the contents. Next morning most of the honey was missing. So far as I know there was no loss of cash or honey at any other time.

Did it pay? In cash, no. I did not sell enough honey in the few weeks I operated this stand to bring the selling cost down to a reasonable figure. Considerable publicity was gained and has doubtless been of some value. Quite a number of mail orders were received as a result of this little stand. Imagine my pleasure. tho, to receive one day a friendly letter enclosing this picture. Some excerpts from the letter might be of interest: "In September, 1932, we had been on a trip through Pennsylvania and on this occasion passed your honey stand and bought some buckwheat honey which tasted very delicious.

"For our amusement we took a picture of your stand. Everybody we showed it to wanted a copy so we thought you would enjoy to have one

too. We had gone about two or three miles when my wife suggested that we should have taken a picture. I promptly turned back and took it."

Talk about sales appeal. Half the distance had been up a heavy grade and it was near sunset after a day of driving.

A later letter brought this comment: "I think of when I was a child how much I liked honey and it was so scarce that we considered it a holiday when we got honey. In our country (Germany) honey is very expensive and here we eat it for breakfast every day."

Beekeepers, there are two sides to the low-priced honey question. I do not send this man honey any more, too much postage, but we still correspond. I had a card from him at Christmas. It was signed, Herman Bledl, postmarked, Hollywood, California.

—ABJ—

Department Clip Sheet Reports Beeswax Uses

Under January release, Clip Sheet No. 1072 from the Department of Agriculture, Washington, gives to the press four paragraphs on the use of beeswax in the cosmetic industry.

"Lipstick, rouge, mascara, eyeshadow, face cream, and other beauty aids depend each year upon the bees for million pounds or more of the products entering into their manufacture. Fully fifty products used on the face and hands include some beeswax. Typical cold cream contains from 8 to 12 per cent. Deodorant sticks contain as much as 35 per cent, camphor ice 25 per cent, and depilating wax 20 per cent. No other substance has yet appeared which will adequately take the place of beeswax."

The Radio Service of the Agricultural Department, Office of Information, also has a release for broadcast on their Homemakers' Chat on the subject of candles and cosmetics

which repeats the information quoted above and also gives facts about candle making which takes more beeswax than any other industry.

We can thank Harold J. Clay, of the Bureau of Agricultural Economics, of the Department of Agriculture, for this helpful service. Clay is also the one who prepares our semi-monthly honey market news letter which has become of such value to the honey market that it may be said to be one source of information on which all classes of buyers and sellers of honey can depend for accurate information. If you are not now getting the honey market news letter, it will be sent to you free of charge if you will write for it to the United States Department of Agriculture, Bureau of Agricultural Economics, Washington, D. C.

—ABJ—

From Our Honey Plant Gardens

(Continued from page 185)

unusually attractive to the bees, it seems to offer possibilities in any effort in the desired direction. It comes from a region of great cold and light rainfall, so should be hardy enough for any condition within this area. It produces less hay, however, than the variety now commonly grown and has the habit of shattering its seed as it ripens, thus making it very difficult to harvest.

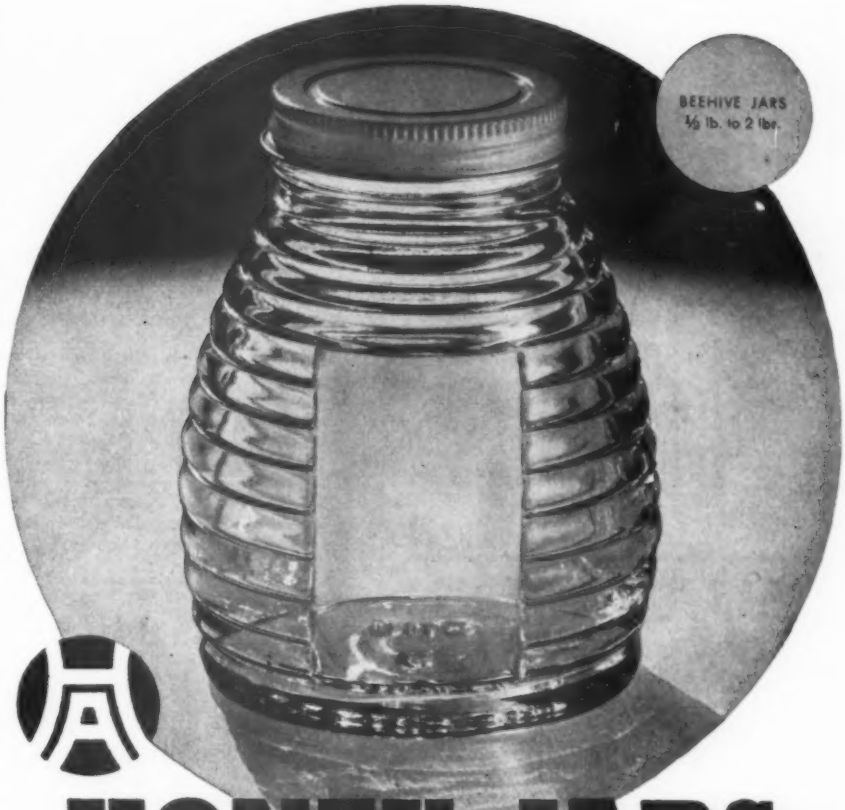
Since this variety will stand for a much longer time than the common alfalfa and will stand pasturing over a long period, it would seem to have possibilities worth investigating. Should it prove to yield nectar freely in this region, it will at once attract the interest of the beekeeper and that is the point we hope to determine.

Sand Lucerne

Sand lucerne **(Medicago media)** was also brought from Russia by N. E. Hansen in 1907. This species has some resemblance to both **M. falcata** an **M. sativa** and is thought to be a natural hybrid between the two. It is variable in its flowering, having at times yellow flowers on one branch and blue flowers on another of the same plant. It is found in a state of nature from northern Sweden across the cold region of eastern Russia and western Siberia, where it is subjected to severe cold and drought.

In our plots are both of these two hardy species together with hybrids between them. Among the hybrids it is to be hoped that plants will be found which have qualities desired for a field crop and which at the same time are attractive to the honeybees. There is little interest to the beekeeper in any farm crop which fails to yield honey.

Frank C. Pellett.



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Queens tested	1.00 each
2-lb. pkg. with queen	1.75 each
3-lb. pkg. with queen	2.25 each
2-lb. pkg. without queen	1.25 each
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Additional lbs. bees ..... .70 ea.
Combless pkgs. or pkgs. with one comb same price.
Additional combs ..... .50 ea.
Queenless pkgs. deduct price of queen .75
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10 to 25 pkgs. 10% off; 26 to 50 pkgs. 15% off; 51 or more pkgs. 18% off.

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Prices

Mated Italian queens ..... $ .75
2-lb pkgs. with queens 2.45
3-lb. pkgs. with queen 3.15

15% discount to dealers

The

Ideal Apiaries

Durant, Mississippi

The Editor's Answers

Color in Italians

What is the difference between leather-colored and yellow Italian bees?

NORTH DAKOTA.

Answer.—The leather-colored Italian bee shows three or more decidedly russet or leather-colored rings at the fore part of the abdomen. However, in most lots of bees there is quite a variation. Those that are brown, like shoe leather, are the real leather-colored bees. The rest are yellow. We prefer the leather-colored bees which we find are more evenly marked than the goldens and more gentle; also the queens appear to be more consistent layers.

—ABJ—

Requeening the Cross Colony

I have a colony which is very cross. However, it is headed by a very good prolific queen; and I hesitate to replace her. What would you advise?

NORTH DAKOTA.

Answer.—You can get just as good qualities in stock that is easy to handle.

—ABJ—

Chemical Bleaching

How is beeswax bleached chemically?

IOWA.

Answer.—Domestic beeswax is one of the most difficult beeswaxes to bleach. Chemical bleaching is done with potassium permanganate or potassium dichromate and involves the use of leadlined tanks and the handling of sulphuric acid. Needless to say, equipment of this type is exceedingly expensive and quite out of the way for such a project as you probably have in mind.

—ABJ—

Creosote for A. F. B.

A beekeeper friend tells me creosote kills A. F. B. I wonder if, after a steam bath, creosote might not find a lurking spore.

IOWA.

Answer.—It is our opinion that creosote would kill American foulbrood spores. However, its use would render equipment unfit for further use by the bees, as creosote contains phenol or carbolic acid to a high percentage; and, as you probably know, carbolic acid drives the bees out of supers and even out of their hives. It is a strong repellent to the insects.

—ABJ—

Making Increase

Is there a very simple way to make increase?

WEST VIRGINIA.

Answer.—Take a frame of brood with the adhering bees and the queen and place them in a new hive directly on the old stand. The new hive should, of course, be filled with frames and sheets of foundation. The old hive, with remaining brood and bees, should be moved to another spot and given a new queen. The field bees will all come back to the old stand, and the old queen will have a force of field workers to draw out the foundation. This she will fill with eggs and brood quite rapidly. Increase by this method should be made when there is some honey coming in, in order that the bees may have the means for drawing out the foundation. If this work were done during a dearth of nectar, it would profit very little.

—ABJ—

Bleaching Beeswax

How do I bleach beeswax?

ILLINOIS.

Answer.—About the only way to bleach beeswax is to shred it and set it out in the sun, being sure to spray it with water frequently. It takes about two weeks to do a fair job of bleaching by this method.

—ABJ—

Feed Speed

How fast ought a colony to take down sugar syrup? WEST VIRGINIA.

Answer.—A colony takes feed in proportion to its size, other conditions being equal. A good strong colony, covering ten frames, and with a hive full of bees should take a 10-pound pail of syrup in twenty-four hours. A smaller colony should take feed in proportion.

—ABJ—

The Cross Colony

One of my hives has bees which are very cross. They are good honey producers, but you cannot get outdoors after they have been opend. Do you think this colony ought to be requeened? WEST VIRGINIA.

Answer.—Any colony that is cross should be requeened. All you need to do is to order a new queen and, when she comes, to kill the old one and introduce the new one. If you will wait until there is some honey-flow, the handling of these bees will be much more satisfactory, and they will be more likely to accept the new queen. Queens can be delivered any time after the fifteenth of April.

—ABJ—

Honey Price

What is the reason for the low price of honey? Is it because widely advertised competing products have interfered with the normal honey sale, or what?

ILLINOIS.

Answer.—This year's low honey price has been partly caused by the "recession" but owes itself largely to the extremely heavy crop which was gathered throughout all the sweet clover-producing areas. Low prices have encouraged the consumption of honey, and we believe that in the end may prove to have had a beneficial effect.

One very serious matter is that bee-

keepers have not generally realized that bakers want a good quality and a uniform qality of honey. Many times beekeepers have palmed off dark, strong honey which has not suited the bakers' needs and has resulted in queering them on honey entirely.

—ABJ—

Meetings and Events

XIIth International Congress and Swiss National Exhibition, Zurich, August 6-9.

Dr. Morgenthaler has sent us announcement of the XIIth International Congress to be held in conjunction with the Swiss National Exhibition at Zurich, during the summer of 1939. The Congress will meet from the 6th to the 9th of August. The National Exhibition will last from the 6th of May to the 29th of October. It is actually a world's fair, on all the grand scale that we are used to in our fairs in this country.

If you are inclined to go abroad, here is a fine chance to see the Swiss National Exhibition as well as to attend the Congress and see the Swiss nation at work and at play, on Lake Zurich—Switzerland; at work on the land, in trades and crafts, specialized industries. Zurich is the largest town in Switzerland, with 320,000 people. No city in Europe is more interesting.

The Congress of beekeepers will have a fuller program later which we hope to publish. Besides the actual meetings, there will be field trips of interest.

—o—

Keep a Happy Healthful Home with Honey

This is a slogan suggested by American Honey Institute, so we head these few remarks about the Institute for this month with it. It is a good slogan. Use it.

The Institute has issued a new streamer for window use in stores April 23 to 30, proposed by the Institute as Honey and_____Week. In other words a week in which beekeepers can sell their honey by the use of these posters in grocery stores. The streamers suggest the use of honey with various things like Honey and Hot Biscuits, Honey and Ice Cream, Honey and Cream Cheese, Honey and Griddle Cakes, Honey and Waffles, Honey and Cereals, and Honey and Fruits. Inquire of the Institute for a supply of the streamers.

Remember this should be a concerted effort on the part of all beekeepers to move honey during the week of April 23 to 30. The window streamer is supposed to have been in-

QUEENS COOK'S QUALITY ITALIAN QUEENS **75** CENTS EACH

Raised by E. F. Day, formerly of Honoraville, Alabama, who has had twenty years' experience raising queens.

PALM APIARIES .:. LaBELLE, FLORIDA

Caucasian Bees and Queens

REDUCED PRICE

2-Pound Package with Queen . . . $2.00
3-Pound Package with Queen . . . $2.50
Queens . 60c each. No Discounts.

Safe Arrival and Satisfaction Guaranteed

P. B. SKINNER BEE CO., Greenville, Ala.

STOP! LOOK! SAVE!

Prices for working wax into foundation for 1939 are the lowest in years. Give the bees a real treat and use full sheets of Dittmer's foundation in your frames. You have the assurance that they will build combs that any beekeeper will be proud of.

Our process of manufacture with the heavy cell base imparts strength and pliability to foundation. It is instantly accepted by the bees. Give it a trial and be convinced of its superiority.

Our Thin Super Foundation is made from the whitest wax obtainable.

We carry a complete line of beekeepers' supplies.

If you have not received our 1939 price list please advise us and we will forward you a copy.

GUS DITTMER COMPANY AUGUSTA, WIS.

KOEHNEN'S

Package Bees, Italian Queens

5000 colonies, 30 years' experience give you dependable service and quality. Order direct from this schedule.

	2-lb. pkgs. with queen	3-lb. pkgs. with queen
1 to 9	$2.25	$2.90
10 to 24	2.00	2.60
25 to 49	1.90	2.50
50 to 99	1.80	2.40
100 to 500	1.75	2.30
500 up	1.70	2.20

QUEENS—65c each; 100 60c each; Tested $1.50 each.

KOEHNEN APIARIES ❖ GLENN, CALIF.

When You Want QUALITY at LOW COST Look For This Sign

Trade Mk. Reg. U. S. Pat. Off.

KELLEY—"The Bee Man"

QUEENS 50c Each

We breed light 3 banded Italians only. Years of experience. 100 queens daily. We always have hundreds of queens on April 1st. You can depend on us for service. Write for special prices on 25 or more swarms.

THE WALTER T. KELLEY CO., PADUCAH, KY.

ITALIAN QUEENS
PACKAGES
ORCHARD
PACKAGES
NUCLEI

QUEENS, 75c each—TWO-POUND PACKAGE OF BEES, WITH QUEEN, $2.45.—THREE-POUND PACKAGE OF BEES, WITH QUEEN, $3.15—FOR NUCLEI ADD 70c PER COMB TO THE PACKAGE PRICE.

Will take honey or wax as payment for bees.
Orders filled promptly.

Homer W. Richard, 1411 Champnolle, Eldorado, Ark.

PACKAGE BEES **With Queen Introduced** *Are a Better Buy as we GUARANTEE NO SUPERSEDURE or Queen Replaced Free.*

Our queens are shipped to us by Jay Smith of Florida in his improved mailing cage which delivers all queens without injury. They are raised on honey, their natural food and are not sugar fed.

We use his improved introducing cage. With such stock pre-introduced in our own yards we know that the customer is getting the best possible package that can be produced. Our location saves customers time and money.

WRITE FOR FREE FOLDER AND PRICES

A. O. SMITH .:. MT. VERNON, INDIANA

WHY

IT'S SAFER TO BUY OUR

SPECIAL
Loose-Queen Package

1st. A ready-introduced, laying queen, taken from the same colony from which the bees are taken.

2nd. Queen is never "jailed" in the close confinement of a queen cage, but left free and contented among her own bees during shipment.

3rd. Overheating or chilling of queen is prevented, and less cause for anger and agitation among bees.

4th. It eliminates guesswork and mistakes when installing, giving you a foolproof package, no chances to take with queen introduction, and reduces supersedure to a minimum.

Our illustrated booklet tells the story. Ask for it, it's free.

	Special Loose Queen		Regular Caged Queen	
	2-Lb.	3-Lb.	2-Lb.	3-Lb.
UNIT PRICE	$2.60	$3.30	$2.45	$3.15
15 to 49	2.34	2.97	2.21	2.84
50 and Above	2.21	2.80	2.08	2.68

Dealers' discount 15%.—Associations' discount 15%.

THE PUETT CO.
HAHIRA, GEORGIA

cluded with a copy of Institute Inklings if you are now a regular member of American Honey Institute. If you desire additional streamers, drop a card to American Honey Institute, Madison, Wisconsin. Honey and _____! Gives the business man a chance to feature other products with honey. The streamers are undated and may be left up indefinitely.

♦

Have you good quality honey in new 60 pound cans? Is it in condition for table use? If so, send your name to American Honey Institute. It will be sent to bakers in answer to requests.

♦

Men and women of national note have contributed articles for Institute Inklings. We trust you will read every word. If you do not get this interesting national newspaper which is put out by American Honey Institute for its members, be sure to join American Honey Institute so you can get a copy. It will help you in many ways in selling your products. The last issue was for the first of this month. Remember it goes to members with samples of the Honey and_____streamers mentioned above. If you are not now a member, be sure to join American Honey Institute for all the helpful things it can give you in selling your product.

♦

The Owens-Illinois Glass Company, manufacturers of glass products, including honey jars, through J. F. McManus, sends us copy of their new syndicated feature column, "Notes for the Kitcheneer," containing household hints, recipes, cookery news notes and items of interest to women. Among the four sample releases which we have received, one is entitled "Cooking with Honey." It starts off, "Have you had the delightful experience of cooking with honey? If not, you are missing something." It gives honey a fine boost and has recipes for Honey Spice Cake and Honey Boiled Icing, and suggestions for other ways of using honey.

Thanks to the glass industry for this help. Beekeepers, will you ever realize the thousands of dollars that other industries are expending for you? It will be a shame if we do not reciprocate whole heartedly.

— o —

Help California Celebrate, November 7-10.

The National Congress of Beekeepers this year will meet with the California Association to help celebrate their golden year, fifty years

of bee association and to attend the Golden Gate World's Fair only one and a half hours' drive from Sacramento, where the Congress will be held.

Bring your wife to California. If you don't have a wife, "Go west, young man," and find one.

We are sure to put on a great exhibit at the Fair in a space 14x30x26, I have myself driven forty-five miles a day to work ten days on our large basket for our honey exhibit. It took 240 hours of carpenter work to build this basket 22 feet long, 12 feet wide, and 15 feet high, for the State Honey Exhibit at a cost of $3,000, to be financed by California beekeepers.

There will be plenty to see out here November 7, 8, 9, and 10, in addition to the World's Fair. Every beekeeper should join American Honey Producers' League. Address Cary W. Hartman, 1001 Bank of America Building, Oakland, California, who is secretary. Then we want you also to support the American Honey Institute.

Did you ever stop to think how slow old Dobbin went hitched to a buggy? Twenty-five miles a day was good. From Detroit to Sacramento, 3,000 miles, would take 120 days. In an automobile, it now takes five or six days. A party of five can get there quickly. Then there are boats, trains, busses, and airplanes. The airplanes get here in twenty hours. I am looking for a great time this fall. It will be a wonderful program, so be sure to come.

Charles S. Kinzie, Chairman,
Board of Managers, California
State Beekeepers' Association.

— o —

Indiana Meetings for April

Apr-County	Town	Time, P. M.
3—Fulton	Rochester	1:30
4—Marshall	Plymouth	1:30
5—St. Joseph	South Bend	1:30
6—La Porte	La Porte	1:30
7—Porter	Valparaiso	1:30
8—Lake	Crown Point	1:30
10—Newton	Morocco	1:30
	Kentland	7:30
11—Benton	Fowler, Boswell, Oxford	
12—Jasper	Rensselaer	1:30
13—White	Monon (City Library	1:30
14—Starke	Knox	1:30
15—Pulaski	Winamac	1:30
17—Knox	Bicknell	1:30
	Vincennes	7:30
18—Daviess	Washington	1:30
19—Pike	Petersburg	1:30
	Winslow	7:30
20—Gibson	Princeton	1:30
21—Posey	Mt. Vernon	7:30
22—Vanderburgh	Evansville	1:30
24—Warrick	Boonville	1:30
25—Spencer	Rockport	1:30
26—DuBois	Huntingburg	7:30
27—Harrison	Corydon	1:30
28—Monroe	Bloomington	1:30
29—Morgan	Martinsville	1:30

— o —

Canadians! An Opportunity

A national Beekeepers' Convention is held in some part of the United State each fall, the American Honey Institute, Honey Producers' League, and Apiary Inspectors of America

FRESH FROM OUR YARDS!

Shipped within 24 hours after receipt of your order.

ITALIAN BEES AND QUEENS

	With Untested Queen	Queenless	Loose Queen (see note)
2-lb. package bees	$2.45	$1.70	$2.55
3-lb. package bees	3.15	2.40	3.25

Young laying queens 75c. Additional bees 70c per lb.
1 extra queen with every 20 packages or queens. No charge for clipping queens. 15% discount to dealers or for resale.

LOOSE QUEEN PACKAGES

A laying queen is already introduced and loose among the bees. They act and start work like a natural swarm and will not supersede. No discount given on this type of package.

CITRONELLE BEE CO., CITRONELLE, ALA.

Koolairy Bee Veil. Best yet, and most convenient to use
POSTPAID $1.50

"She-Suits-Me" Queens

Light-3-banded stock, linebred for 26 years. None better. One queen **75 cents, 3 for $2.00** after May 31. Write for prices on quantity lots. Stamps accepted for single queen orders. Season begins May 20.

ALLEN LATHAM
Norwichtown, Conn.

Did you ever try the SAFIN cage for introducing your queens? **15c postpaid, 10 for $1.00.**

The koolairy veil will always be used when once tried. The easiest, most comfortable veil ever contrived.

There are reasons why William's

Package Bees and Queens

will produce a better honey crop for you. Our free circular tells why.

P. M. WILLIAMS & SONS
CASTLEBERRY, ALABAMA

FROM **IMPORTED STOCK**
Pure Italian Queens
Bred from mothers from Northern Italy. All leather colored. They are different.
To June 15th, each queen 75c. After June 15, 50c. Ready April 15.
MIDDLE TENNESSEE APIARIES
1023 Lischey Ave. Joe B. Tate & Son Nashville, Tenn.

Italian Bees and Queens

Breeding queens selected from famous north-western clover belt, where we produce honey by the car load. Thirty years' experience in northern and southern states insures you bees and queens of the largest honey producing strain possible.

	1-10	11-24	25-49	50 or more
2-pound packages	$2.45	$2.20	$2.05	$1.90
3-pound packages	3.15	2.85	2.70	2.50
4-pound packages	3.85	3.50	3.35	3.15
5-pound packages	4.55	4.15	4.00	3.75
Untested queens	.75	.70	.65	.60
Tested	1.50	1.40	1.30	1.20

For comb packages add 40c to above prices for each comb. For queenless packages deduct price of queens in quantity from packages quoted above. We ship the package with queen introduced if wanted, this is superior to the so called loose queen package. We guarantee these queens introduced 100 per cent.

We ship one extra queen or package with each order for 25 or additional 25.

D. C. JACKSON APIARIES — FUNSTON, GA.

MOREHEAD APIARIES — CONVOY, O., U. S. A.

Attention Beekeepers!

We have the following slow moving items that we are offering at greatly reduced prices, as long as the stocks last.

50,000 Sections 4x5 1⅜" plain, No. 1—Per 1000	$6.00
15,000 Sections 4x5 1⅜" plain, No. 2—Per 1000	5.00
35 10-frame section supers with section holders and fences for 4x5 1⅜" sections—Per 5	4.50
30 10-frame section supers with section holders and separators for 4¼-1⅞" bee-way sections—Per 5	3.00
75 10-frame shallow extracting supers with regular 5⅜" shallow frames—Per 5	3.60
80 10-frame shallow extracting supers with wedge top bar shallow frames—Per 5	4.00
120 10-frame section supers, empty Per 5	1.60
150 10-frame shallow extracting supers empty—Per 5	1.85
75 8-frame reversible bottom boards, white pine—Per 5	2.00
5,000 Shallow extracting frames 5⅜" with ⅜" grooved top bar—Per 100	2.40

Write for 1939 catalog.

A. H. RUSCH & SON CO., REEDSVILLE, WIS.

REVISED PRICES

First Quality Bees and Queens at a Price You Cannot Beat Anywhere

PRICES

	10 to 50	50 to 5,000
2-lb. packages with queens	$1.60	$1.50
3-lb. packages with queens	2.20	2.00
Untested queens	.60	.50
Tested queens	$1.00	any number
Additional bees		.50 per lb.

We have shipped several hundred thousand packages and queens in the last 28 years and you are assured of good service and first quality Bees and Queens. We are now making daily shipments. No discount from above prices.

MERRILL BEE CO., BUCATUNNA, MISS.

Mississippi's Oldest Shippers

MENTION AMERICAN BEE JOURNAL WHEN WRITING ADVERTISERS

meeting jointly. The meetings have usually been at a distance from British Columbia, but November 7, 8, 9 and 10 this year the convention will be in Sacramento. Beekeepers from Canada have attended the previous meetings and are always made most welcome.

We hope that British Columbia beekeepers and other western Canadian beekeepers will take advantage of the opportunity and go to Sacramento for this important convention. From New Westminster, British Columbia to Sacramento or San Francisco with return fare is $27.00 by bus, $32.00 by train, and $85.00 by air, meals and Pullman extra. Some will go in their own cars and they can take others along to help with expenses.

Anybody in British Columbia or neighboring it, who would like to go to the convention write us, so plans can be made. The San Francisco World's Fair will be on at the same time so the Convention and the Fair can be attended in one trip.

The American Honey Institute has helped greatly in finding markets for honey and much of their work has helped Canadian beekeepers. It would not hurt Canadian beekeepers to send a donation to the Institute, at Madison, Wisconsin in appreciation.

S. P. Hodgson & Sons,
New Westminster, B. C.

—o—

New Waushara (Wis.) Association

Waushara Beekeepers at Wautoma, March 6, organized a temporary county association with Henry Piechowski, Redgranite, president; Howard Smith, Redgranite, vice-president; and Carl Rhapstock, Plainfield, secretary. The association plans to hold its permanent organization meeting the first Monday in April at the Wautoma town hall.

H. C. Brunner,
Wisconsin.

—o—

Washington Fair Trade Practices

Declaring there is not a sting in the bill, Washington state senators approved legislation to establish fair trade practices for the honey industry of that state. The measure provides for cartons that will disclose to the customers the honey he is buying. State inspection is supported and a state seal is advised to indicate that the honey comes up to a standard of cleanliness. D. Dowe McQuesten, of Yakima, introduced the bill.

I. L. Neill,
Washington.

—o—

Beekeeping at Minnesota School for the Deaf

Norris J. Ellingsen, secretary of the Minnesota Association, tells of a short course in beekeeping given at the Minnesota School for the Deaf

at Faribault, December 26-31, attended by twenty-five graduates of the school who came back to spend a week when the regular students were home for vacation.

We believe that this is the first course of its kind offered in any such school in the country. Ralph W. Farrar, principal of the school, conceived the idea of the course when he noticed bee yards and honey stands along the highways in many parts of Minnesota. It occurred to him that beekeeping is a vocation which might readily be followed by people who are hard of hearing since there is not so much need for depending on the sense of hearing in the work among the bees.

Together with Leonard M. Elstad, superintendent of the school, he made plans to offer the course. Mr. Ellingsen was selected as instructor. He found many of the students good lip readers. Questions were also asked in signs and answers interpreted in signs. There were many questions and comments and the students were really interested.

— o —

Beware of Spring Sales

The New Jersey Department of Agriculture cautions beekeepers in that state to be on guard against farm sales of bees unless they are backed by a state permit, guaranteeing freedom from disease. This is a good caution for beekeepers everywhere. Frequently, those who purchase these bees later find that they have been "stung" because the colonies have foulbrood.

"The practice of buying bees at public auction has its disadvantages," declares Paul L. Holocombe, New Jersey inspector. "Such colonies are likely to have been neglected; the equipment is often of medium quality; the combs are often crossed; the queens old and needing to be replaced. Usually these colonies went into winter with less than the required amount of stores, so when the spring comes, all there is left is a small lot of bees which will not only need feeding, but also quite likely to need transferring.

"These sales often take place so early in the season that it is impractical to move the bees without loss. If it is necessary to buy bees on this basis, they should be bought with a definite guarantee of freedom from disease, subject to their being found so at the first possible inspection."

Bethune Jones,
New Jersey.

— o —

Jensen, Waupaca President

J. C. Jensen, Farmington, Wisconsin, was elected president of the Waupaca County Beekeepers' Association February 23. Other officers

For Prompt Efficient Service Particular People Choose

Pettit's Package Bees and Queens

Many years a beekeeper, inspector and instructor in Ontario and fourteen years a shipper in Georgia, we offer you the benefit of thoughtful experience.

We have again increased our colonies and they are in splendid condition to give you plenty of vigorous young bees. They are three-banded Italians, and the queens will be of the best stock, productive and gentle, reared by our queen breeder who is one of the best and most careful in the country.

Our new method of shipping greatly reduces shipping losses and supersedure. Many kind letters from satisfied customers testify to this.

Write for our booklet which tells all about it.

PRICES

Quantity	Two's with Queens each	Threes with Queens each	Queens each
1—11	$2.25	$2.90	$ .70
12—23	2.15	2.75	.65
24 up	2.00	2.55	.60

Safe Arrival and Satisfaction Guaranteed.

MORLEY PETTIT, Albany, Ga., U. S. A.

Write for free *Book on the . . . GREAT NORTHWEST*

Thousands of acres of sweet clover and other honey plants that give honey of high yield and fine quality. Favorable localities—Red River Valley, in Minnesota and North Dakota; Milk River Valley; Lower Yellowstone Valley; Valier Project; Kootney Valley, in Montana and Idaho; and the Pacific Coast Region in Oregon and Washington. ● Beekeepers in this country are increasing their holdings and new beekeepers are establishing themselves along the Great Northern Railway in these states. Diversified farming and livestock are similarly favored by low cost production. ● Write for Free Booklet on beekeeping and farming opportunities, including Low Homeseekers' Round Trip Excursion Rates.

E. C. LEEDY DEPT. J., GREAT NORTHERN RAILWAY SAINT PAUL, MINNESOTA

Three Banded Italian Bees and Queens

Since we know that the success of our customers is also our success, we have devoted the past eighteen years to the study of your needs. We can give you quality and service which cannot be excelled anywhere. About April 10th, we will be ready to send you young bees, and young queens, and our location saves you money on either express or truck hauls. Hard roads all the way. No foulbrood here.

PACKAGE BEES

	With Queens	Without Queens
Two pound	$2.45 each	$1.70 each
Three pound	3.15 each	2.40 each
Four pound	3.85 each	3.10 each

Queens 75c each—Tested queens 1.50—Five extra queens with each 100 packages

15% discount to dealers

SHAW & HOMAN, Shannon, Mississippi

SPECIAL FIVE THREE-POUND PACKAGES with QUEENS **$10.00**

For your wealth and satisfaction try these Three-Banded Italians NOW. This introductory group offer is for April only. No larger or smaller orders at this price.

GEORGE E. SMITH Route 2 **YUBA CITY, CALIFORNIA**

BEES and QUEENS

Three-Band Italians

Priced as low as they can be produced without sacrificing quality.

PACKAGES WITH QUEENS

	2-Lbs.	3-Lbs.
1 to 100	$2.00	$2.60
Over 100	1.90	2.45

QUEENS—60c any number

For queenless packages deduct price of queen. No discount on these prices.

Highest quality, reliable service, full weight, young bees and light crating.

Safe arrival and satisfaction guaranteed.

W. O. Gibbs ❖ **Brookfield, Ga.**

Gaspard's

Quality Golden and Three-Banded Queens, Package Bees and Nuclei for Spring 1939 Delivery

Comb Packages with Queens	
2-lb. package with queen, one frame of brood each	$2.45
3-lb. package with queen, one frame of brood each	3.15
4-lb. package with queen, one frame of brood each	3.85
5-lb. package with queen, one frame of brood each	4.55
2-lb. package with queen, two frames of brood each	3.05
3-lb. package with queen, two frames of brood each	3.65
4-lb. package with queen, two frames of brood each	4.25
5-lb. package with queen, two frames of brood each	4.85
Combless Packages with Queens	
2-lb. package with queen, each	$2.45
3-lb. package with queen, each	3.15
4-lb. package with queen each	3.85
5-lb. package with queen, each	4.55

Untested queens **75 cents** each. Tested queens **$1.50** each. For queenless packages deduct price of queen.

Twenty years' experience, prompt service, satisfaction guaranteed, health certificate. Discount—5-9 packages, 5%; 10-24, 10%; 25-49, 15%; 50-99, 20%; 100 or more, 25%.

J. L. GASPARD, Hessmer, La.

Economy Package Bees and Queens

Sturdy Italian from Selected Stock

Take care that you have good queens and the bees will take care of themselves.

K. D. prices on request.

NEAL'S APIARY ❖ **HAMBURG, LA.**

Young Untested Queens, 49c EACH POSTPAID

2-LB. SWARM WITH QUEEN, (Express Collect) - **$1.99 Each**
3-LB. SWARM WITH QUEEN, (Express Collect) - **$2.49 Each**

GULF COAST BEE CO. .:. **SCHRIEVER, LOUISIANA**

are A. J. Dean, Scandinavia, vice-president; Laverne Larson, Waupaca, secretary; and Earl Lillie, Waupaca, treasurer. The association will hold six meetings during the year.

H. C. Brunner,
Wisconsin.

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Association of Economic Entomologists, Palo Alto, June 27-29

The Pacific Coast Branch of the American Association of Economic Entomologists will hold a three-day convention at Stanford University, Palo Alto, California, June 27-29. Dr. Ralph Smith has asked me to arrange for a beekeeping program and to invite all beekeepers of the West to attend the meetings.

There will undoubtedly be a number of papers presented that deal with the results of research in apicultural problems. Will those interested send me the titles of their papers so that arrangements can be made for their presentation on the program. It will assure an earlier publication of the papers than would be the case if they were held until the December meetings.

I hope that a good representation of the leading beekeepers in the commercial field and also the research workers, teachers of apiculture, and apiary inspectors will attend the apicultural section in order to take part in an informal discussion of the present status of the beekeeping industry and outline a program for the improvement on a national basis. This summer meeting would be an ideal time to discuss the program of the International Conference scheduled for Sacramento, California, November 7 to 10 inclusive.

J. E. Eckert,
Associate Apiculturist.

—o—

Iowa Short Course, May 18-19

The annual Short Course for honey producers will be held at Ames on May 18 and 19. The guest speaker for the Short Course will be Professor George H. Rea, of Cornell University. The program will be made up of speakers of the local college staff, which will make it possible to present a broad program pertaining to the problems of the honey producing industry.

F. B. Paddock,
Extension Apiarist.

—o—

John Gasnow

On February 22, we lost a good member of our association, John Gasnow, of Moline, Illinois who passed away at his home. Mr. Gasnow was a very active member in our county association and was also vice-president. He will be missed by everyone, as he had been in the bee business for more than sixty years.

S. F. Peterson,
Secretary.

Crop and Market Report

Compiled by M. G. Dadant

For our April Crop and Market page, we asked reporters to answer the following questions:

1. What per cent of honey is left locally?
2. Is there any tendency for rise in jobbing price?
3. Is there more demand jobbing than a month ago?
4. How are bees coming through the winter?
5. Are conditions favorable for honey plants?

Per Cent Honey Left Locally

The New England states will have no greater amount of honey than usual on hand April 1. The same thing holds true of New Jersey and the entire Atlantic coast from Maryland to Florida, as well as the southern states as far west as the Mississippi River.

In New York, perhaps, 20 per cent to 25 per cent of the 1938 crop still remains. This is not, however, excessive for this date.

It is not until we reach the central western area that we find still considerable of a glut of honey with Ohio reporting 30 per cent, Indiana 20 per cent, Illinois 30 per cent, Michigan 40 per cent, and Wisconsin 25 per cent of the honey still left on hand.

The Dakotas, Iowa, Nebraska, Kansas and further south and into Texas, the crop seems fairly well disposed of with 10 to 15 per cent remaining.

The intermountain territory also is still heavily burdened with honey, except that Montana seems to have been especially fortunate in clearing up their stocks early. Idaho has perhaps 15 to 20 per cent left on hand, but as we work south into Utah, Nevada, Colorado, New Mexico and Arizona, we find probably 30 per cent still on hand, with Wyoming perhaps in somewhat better shape with likely not over 15 per cent.

The states of Washington and Oregon have been hit by cheaper honey coming in from California which has somewhat "flooded" their markets.

In California, itself, conditions are improving although there is probably 15 to 25 per cent of the 1939 crop still remaining. Considerable quantities are going both for export and for eastern United States ports, hoping to alleviate the difficulty.

In the Canadian provinces, Ontario perhaps shows the biggest percentage of honey still left on hand. There seems to be very little concern in the western provinces of Manitoba, Saskatchewan and Alberta. In British Columbia, however, considerable heavy excesses of honey remain, apparently on account of the fact that the prairie provinces have shipped large quantities into the coastal section, which has interfered with the orderly distribution of the honey at prices formerly gotten by beekeepers there. Quebec seems able to handle its crop as usual in a satisfactory fashion.

Jobbing Prices

Nowhere have we seen any suggestion that jobbing prices are tending to stiffen although one report did come from Florida that there was a decided stiffening in the jobbing price. We do notice perhaps a steadying influence in many sections but no tendency at all for stabilization of price above the low levels which have been so current. This is perhaps due to the fact that jobbers are not anxious to buy at this season and also that the tag end of the producers, who feel they must sell, are throwing their honey on the market now to maintain a fairly level basis instead of an advance and it should perhaps show itself at this time.

Jobbing Demand

As stated before, there seems to be a little firmer demand in a number of cases and more inquiries on the part of large buyers, although no tendency to stiffen the price.

Condition of Bees

The condition of bees this spring is at least on a parity with a year ago and perhaps a little better.

The weather has not been excessively cold anywhere. Bees mostly went into winter quarters with good clusters and plenty of stores and apparently are coming out this spring in satisfactory fashion, although, of course, April 1 is a little early to determine yet how the northern bees will fare. The winter has been "closed up" in the northern states during the entire winter with scarcely a flight and the question now arises as to whether bees will come out as satisfactorily as one would suppose. Cellar wintered bees seem to be doing excellently. Long confinement, however, may offer some difficulties in various sections.

There is no doubt whatever but that beekeepers generally will have to watch their bees this year for shortage of stores. This is caused partly by the moderate winter in many sections, and also by the long, warm fall last year, which used excessive stores. One Iowa correspondent states that his bees apparently have bred during the entire winter and are as strong now as they ordinarily are in May. This is hardly a favorable sign, since it means that all of this brood will require much food and feeding will be in order long before the new crop comes. It will be difficult to keep such colonies with a morale so that they will not swarm and yet not become demoralized by the time the honey crop comes.

Condition of Honey Plants

Generally, the condition of honey plants is excellent. The New England states report perhaps not enough snow and too much ice in some sections. Georgia and other parts of the Southeast have suffered from a late freeze which very badly damaged the early honey producing plants. Conditions are now coming back somewhat to normal, but much time has been lost. In sections of Florida, conditions are too dry although the orange crop is opening up very nicely. Texas, especially in the south central and western portions, seems to need more rain. In sections of Ohio and Indiana, fall seeded alsike does not seem to have survived the winter, and as a result, there will be much less acreage of alsike clover in those sections than usual. Ice is reported in southern Minnesota, which may harm the clovers some and in western South Dakota reports are that there has not been sufficient snow. Central and western Nebraska and Kansas also report conditions too dry and much more moisture needed. Oklahoma, fortunately, is in better shape than for a number of years.

The intermountain territory generally is in excellent shape with ample snows and plenty of irrigation water.

California earlier reported dry conditions, particularly in the central and southern parts, but this has recently been broken by rains and apparently there will be somewhere near normal conditions, although honey plants, at the date this is written, were back of normal, owing to the cool and inclement weather which held vegetation back.

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Jewett & Sherman Co.
Milwaukee, Cleveland, Kansas City, Brooklyn

HONEY WANTED Cars and less than cars Mail Samples
C. W. AEPPLER CO., Oconomowoc, Wisconsin

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Extracted Honey bought and sold
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Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers, we require reference of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

BEES AND QUEENS

PACKAGE BEES, QUEENS, Italians. Highest quality. Booking now for early spring delivery. J. E. Wing, Cottonwood, Calif.

EARLY ITALIAN NUCLEI, 1 or 2 frame with queen. Standard prices. E. F. Parker, 2415 11th St. North, St. Petersburg, Florida.

ORDER NOW for early spring shipment. Best quality package bees, queens. The Diamond Match Company, Chico, California.

EXTRA YELLOW Italian Queens that produce bees a little more yellow than the three-banded; more gentle and just as good workers. Untested 75c each, starting early in May. Health certificate and satisfaction. Hazel V. Bonkemeyer, Rt. 2 Randleman, N. C.

REAL PETS, 2-lb. Brown's stingless bees with queen $3. Queens $1 each. Brown's Apiary, Cape May Court House, N. J.

BEES 50c per pound. ITALIAN QUEENS 50c each. Only in lots of 100 or more two or three pound packages. James E. Wing, Knights Landing, California.

PACKAGE BEES. QUEENLESS PACKAGES ONLY. Disease free leather colored Italians in either two or three pound packages. 50c per lb. within 1000 miles; 60c per lb. over 1000 miles. Dealers write for prices. Robert N. Moore, Rt. No. 1, Box 128, Tempe Arizona.

PACKAGE BEES AND QUEENS—Italian and Carniolan. Service. Satisfaction. Hafley Brothers, Gause, Texas.

PACKAGE BEES, QUEENS—High producing northern strain. Satisfaction guaranteed. P. M. Cassady, Davidson, N. C.

3-BANDED ITALIAN Package Bees and Queens. April 1939 delivery. Mansford Plantation, Tallulah, La.

QUALITY PACKAGES that are worth the money. Wire for quick service. Rapides Apiaries, Winnfield, La.

CARNIOLANS, CAUCASIANS, ready April 1st. 2-lb pkg. $2.45; 3-lb. pkg. $3.15. Untested queens 75c each. For large quantities write for special price. 15% discount to dealers. Safe arrival. Satisfaction. Tillery Brothers, Greenville, Ala., Rt. 4, Box 132.

BEGINNERS BEST BET. High quality Italian queen introduced, one standard comb, 2-pounds bees $2.45; MODIFIED DADANT comb, 2-pounds bees, queen introduced $3.00. EPHARDT'S HONEY FARMS, LULING, LOUISIANA.

WE ARE CAUCASIAN BEE SPECIALISTS. Write for interesting folder containing prices. CAUCASIAN APIARIES OF CALIFORNIA, RIPON, CALIF.

NOTICE You Northern Buyers—High test package bees and queens, 2-pound packages $2.45; queens 75c. Your choice of Italian or Caucasian queens. In our opinion Caucasian bees are superior to Italians. Oregon Bee Co., Rt. No. 1, Box 296, Salem, Oregon.

BULK BEES from 400 colonies at 45 cents per pound, for sale to buyers hauling their bees. Young Apiaries, Box 55, Whistler, Alabama.

QUEENS WITH CHARACTER. They please all. They are reared in honeyflow while the bees are wanting to swarm. They have the pep and price is right. D. P. Green, Rt. 2, Deland, Florida.

CAUCASIANS—MILLER BROTHERS, Three Rivers, Texas. Oldest Caucasian breeders west of the Mississippi. Packages with queens introduced. Write for circulars.

PACKAGE BEES AND QUEENS. Service —Satisfaction. Sternenberg Bros., Lockhart, Texas.

NORTHERN COMB HONEY STRAIN Italian bees and queens in any style package. Nuclei a specialty. Nearest eastern buyers. Write for prices. A. J. Wilson, Switzerland, S. C.

CAUCASIAN QUEENS AND PACKAGE Bees. Our strain true to type, prolific and hardy, have given satisfaction for a number of years under northern conditions. Queens for spring delivery, one to fifty 75c each; fifty and up, 65c. Attractive package bee prices. Go Caucasian, "The Bees that pay dividends." T. L. Nicolaysen, Salida, California.

"QUEEN LOOSE PACKAGE." ITALIANS 2 pounds, queen, $2.45; 3 pounds, queen, $3.15 Cheaper in lots. EPHARDT'S HONEY FARMS, LULING, LOUISIANA.

GET RUNNING'S BEES and Get Honey—They satisfy. The kind WE use in our extensive Michigan apiaries, where WE produce honey by the carload. All Italian stock. Service guaranteed. Two pound package with choice untested queen $2.45; three pound package with choice untested queen $3.15 Choice untested Italian queen 75c; choice tested queen $1.50. 10% discount on 50 or more; 15% discount on 500 or more. David Running Apiaries, Sumterville, Ala.

PACKAGES WITH QUEEN INTRODUCED prevent supersedure and loss of queens. Free folder tells their advantages over others and how we do it. A. O. Smith, Mount Vernon, Indiana.

GOLDEN QUEENS—excellent quality, carefully reared. Will please the honey producer. 75c each. Satisfaction guaranteed. O. E. Brown, Rt. 1, Asheboro, N. C.

FOR STRONGER COLONIES, Bigger Honey Crops and Gentler Bees try our prolific, well-bred three banded Italians. Used for years by leading beekeepers of the U. S. and Canada. They will satisfy you. We send all new, light, clean and convenient shipping cages; more than full weight of healthy young bees; select young laying queens of our own production; few or no drones, and no disease. 2-lb. packages with queens $2.45 each; 3-lb. packages with queens 3.15 each. Express or mail shipment, f. o. b. here. Select young laying queens 75c each postpaid. Our shipping season opens April 10th. Capacity 100 packages and queens daily. Order early and have your shipping date reserved. H. C. Short, Fitzpatrick, Ala.

PACKAGE BEES USERS ATTENTION: Albert Koehnen's new plant is conveniently located one mile west of Live Oak with bees enough to furnish bulk or package bees by the truck loads, large or small; bring part of help. For information address Albert Koehnen, Rt. 2, Live Oak, California.

TRUCK LOAD of four frame nuclei; leather colored Italians with young laying queen, ready May 1st. Priced low for cash, here. R. C. King, Wharton, Texas.

NASHVILLE, TENN. Bees and Queens. High grade Italian bees and queens shipped promptly from my yards here, thereby saving you time and Express charges. 2-lb. package with queen, $2.45. 3-lb. pound package with queen $3.15. Discount on large shipments. N. S. Gladish, No. 5 Hobbs Rd., Nashville, Tenn.

FOR A GOOD HONEY CROP try our Three-Banded Italians. Alamance Bee Company, Graham, N. C.

HONEY FOR SALE

HONEY FOR SALE—We buy and sell all kinds, carloads and less. The John G. Paton Company Inc. 630 Fifth Avenue, New York, N. Y.

WHITE CLOVER and Amber extracted in 60's. 125 used 5 gal. cans 10c each. F. J. Smith, Castalia, Ohio.

NO. 1 WHITE CLOVER Comb Honey in window cartons, 25 to 26 pounds to the case of 24. Price $2.75 per case. Cooke Bros., Pecatonica, Ill.

FINEST quality white clover extracted honey 6½ cents per lb. Ray Mittower, Route 3, Bellevue, Ohio.

FANCY clover comb in window cartons, $3.00 per case; No. 1 $2.75. H. R. Shelton, Parma, Mich.

COMB HONEY—Fancy white clover $2.75 per case; fancy mixed or amber or buckwheat $2.00. White clover extracted 6½c; buckwheat 5c; amber 5½c; C. B. Howard, Geneva, N. Y.

FINEST clover honey. New sixties. W. G. Roediger, Kettlersville, Ohio.

FOR SALE—48 cases Fancy Comb wrapped, $3.00 per case. White extracted and light amber at lower prices. N. B. Querin, Bellevue, Ohio.

HONEY—Clover and buckwheat, extracted. Geo. Sowarby, Cato, N. Y.

HONEY AND BEES FOR SALE—Write for prices. Henry Price, Elizabeth, Ill.

BEST CLOVER in new 60's, 7c; liquefied, 7½c; ten cans or more, ½c less. E. S. Miller, Valparaiso, Indiana.

CHOICE CLOVER HONEY in 60's, 6½c. Harold Bour, Tiffin, Ohio.

FINE CLOVER HONEY—6½c per pound. Edw. Klein, Gurnee, Ill.

CLOSE OUT PRICES 1938 crop white clover 6c; buckwheat 4½c. A. J. Wilson, Hammond, N. Y.

FINEST EXTRACTED CLOVER and Buckwheat honey in any quantity. Sample 15c. F. W. Summerfield, Grand Rapids, Ohio.

REDUCED prices on comb and extracted. Write H. G. Quirin, Bellevue, Ohio.

BEST QUALITY white extracted honey in new sixties. One case or a carload. Prices reasonable and satisfaction guaranteed. Harry C. Kirk, Armstrong, Iowa.

MICHIGAN'S FINEST WHITE CLOVER honey 5½c. Choice buckwheat 4½c. New cans. No disease. You will be pleased. John McColl, Tecumseh, Michigan.

SUPERB CLOVER HONEY, extracted. Priced to sell. C. J. Baldridge, Romulus, New York.

COMPLETE LINE comb and bottled honey. Pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, Ohio.

CHOICE NEW CLOVER HONEY in 60's and in 5 and 10 lb. pails. R. C. Bish, successor to Moore Apiaries, Tiffin, Ohio.

FOR SALE—Fancy Iowa white clover extracted honey. Kalona Honey Co., Kalona, Iowa.

ORANGE, Palmetto and Mangrove honey in new sixties. Peter W. Sowinski, Fort Pierce, Florida.

FOR SALE—Northern white extracted and comb honey.
M. W. Cousineau, Moorhead, Minn.

BETTER BRED QUEENS ❖ 3-BANDED ITALIANS

Bees, Bees, Bees, plenty of them. We are having one of the best springs for package bees that we have had in several years. Therefore, we are passing it on to you, and allowing the 15% discount to all who buy our bees this spring. We can also furnish loose queen packages. Please book orders several weeks before shipment of loose queen packages.

2-lb. packages with queen	$2.45	4-lb. packages with queen	3.85
3-lb. packages with queen	3.15	Queens	.75

Loose queen packages 15 cents higher. 15% discount to all customers. If you wish large quantities, write for prices.

CALVERT APIARIES **Calvert, Alabama**

Honey and . . . . . !
Week of April 23 to 30

During this week, stage your honey in store displays suggesting the use of honey with biscuits, ice cream, cream cheese, griddle cakes, waffles, cereals, fruits. The Institute has window streamers for the use of Institute members. Get yours. Write the Institute. Every grocer likes help in selling. By using this plan you help him sell many other things along with your honey. It's a common co-operative idea but seldom used by honey producers. Try it now during the week of April 23-30. Institute window streamers now ready for you.

BASIS OF COOPERATION—$1 per ton of honey produced or 3 cents per case. Send your pledge to

American Honey Institute
Madison, Wisconsin

The Modified Dadant Hive

A good hive has all the room the queen needs, and also room for food and young. Often over 100,000 cells are needed at one time—no hive but the Modified Dadant gives this room in compact body. It produces big colonies and big crops. Send for the 16-page booklet telling how the Modified Dadant Hive is used by successful producers.

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BRAZOS VALLEY APIARIES
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PACKAGE BEES

BRAZOS VALLEY APIARIES
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Your choice of queens

Italian, Caucasian, Carniolan

Queens reared in yards several miles apart insuring no cross breeding. Each race from the very best pure stock obtainable. Extensive experience in loading trucks quickly. A quarter of a century of efficient service in the same locality is our record.

My motto through the years: I will expect to do business with you again.

	1-49	50 or more
2-lb. package bees with young select laying queen	$2.00	$1.75
3-lb. package bees with young select laying queen	2.60	2.35

"YOU CAN PAY MORE BUT YOU CANNOT GET BETTER BEES OR FAIRER TREATMENT"

H. E. GRAHAM ❖ ❖ **CAMERON, TEXAS**

The Postscript

Gossip About the Office in the Making of the Magazine

E. S. Miller, of Valparaiso, Indiana, calls attention to the fact that the reference in March Postscript to returns per hive from bees failed to indicate whether net or gross profit is intended. He appears to agree that five dollars per hive gross return is reasonable but believes too many beekeepers fail to make a distinction between gross return and net profit.

———ABJ———

The novice who starts with a few hives of bees usually looks upon the gross return as income, as he fails to take the usual items of labor, depreciation and other overhead costs into consideration.

———ABJ———

Archie Fitzgerald, of Webster Groves, Missouri, says that scraps of wall board make the best smoker fuel that he has ever used. Larger pieces provide splendid insulation for use between the upper and inner covers for the beehives. He uses them the year around. In summer they prevent overheating and when placed above the cluster in winter they absorb the moisture that sometimes causes disaster.

I have often heard wall board recommended for insulation but as smoker fuel the idea is new to me. Something else to try at first opportunity.

———ABJ———

Mr. Fitzgerald warns the novice to do most of his experimenting with one colony and leave the others to themselves except for necessary manipulations. The suggestion is good since the curiosity of the novice often results is so much attention that the bees are bothered to death. Many a novice has started with one colony and lost that before the first summer was over because he fooled with it so much.

———ABJ———

Speaking of slogans, Joseph H. Peterson, of Brigham City, Utah, calls our attention to "Honey Sweetening Makes Good Food Better," which appeared in a column in "Health News" conducted by Marguerite Irvine. This is a Los Angeles publication.

Mention is made of the fact that on the same page appeared three recipes using honey. Mr. Peterson questions whether beekeepers fully appreciate the assistance received from food journals and food teachers like Miss Irvine.

———ABJ———

Mr. Gilbert Pieper, of Oakfield, Wisconsin, is an orchardist who keeps bees for pollination. He raises the question as to what is the best cover crop to grow to serve both the orchard and the bees. We would like to see the new Melana sweet clover tried on an extensive scale for a cover crop. It is an annual legume and should provide ample nitrogen as well as humus when turned under. It does not grow as rank and coarse as Hubam or the biennial sweet clover but is more like alfalfa in its stems.

———ABJ———

J. M. Mace, of Terra Haute, Indiana, sends an interesting newspaper account of Ladino clover in Massachusetts. Ladino clover is a relatively new variety from Italy which has attracted some attention in the irrigated sections of the West. Now we are surprised to hear that 1200 acres have been planted to this crop in Massachusetts.

There is encouragement for the beekeeper in the increased acreage of new clovers since they usually bring more bee pasture.

Likewise comes a letter from E. A. Ragland, Brunswick, Missouri, telling about a new field of strawberry clover in that locality. Five acres of the crop yielded 31 bushels of fine seed last season and so much interest has been aroused on the part of farmers in the neighborhood that 175 acres will be seeded this spring.

———ABJ———

A western reader asks for suggestions for planting new things which will yield honey in a locality where it is always cool and nearly always wet. The new strawberry clover is said to succeed in permanently damp situations but as yet seed is not generally available. The giant cow parsnip is a coarse plant which yields nectar copiously and which requires plenty of moisture. If the soil is inclined to be sour one might well try the heather which yields so much honey for beekeepers in the Old World. Wild thyme is another plant worthy of a trial.

———ABJ———

According to an old Chinese proverb if you would be happy for an hour get drunk. If you would be happy for three days get married. If you want to be happy for a week kill your pig and eat it, but if you wish to be happy forever, become a gardener. Perhaps you might change gardener to beekeeper and get the same result. Better yet combine beekeeping with gardening.

———ABJ———

The result of two years' observation of the balsam clover or blue flowered sweet clover, (**Trigonella caerulea**) indicates that this plant is unsuited to conditions of the Midwest. Since it appears to be of no value to the agriculture of this area we are discarding it from our test plots and do not plan to plant it again.

———ABJ———

Little Jane Ann arrived at the home of Prof. J. A. Munro, of the North Dakota College of Agriculture, on January 28. Another honey baby we can be sure. "Daddy" Munro is widely known among the beemen. As state entomologist he is responsible for bee inspection in North Dakota.

———ABJ———

D. W. Taylor, of Washington, D. C., raises an interesting question as to why goldenrod yields no honey for his bees in Virginia, while good crops are harvested from this source by New England and New York beekeepers. I have had the same experience, getting honey from goldenrod at my Nebraska ranch but none in Iowa.

He suggests that it might be possible to select plants from the heavy yielding strains which might succeed elsewhere as well. It is an interesting possibility.

———ABJ———

Referring again to the age of associations, O. A. Keene, of Topeka, reports that Kansas State Beekeepers Association was organized in 1903 and has held annual meetings without interruption since it was started. Mr. Keene has served the organization as secretary for many years.

The Illinois State Beekeepers Association was formed at Springfield, February 26, 1891. Thomas G. Newman, who was then editor of this magazine, was elected as the first honorary member. In the list of charter members we find such well-known names as Dr. C. C. Miller, W. Z. Hutchinson, A. I. Root, O. O. Poppelton, J. Forncrook, and Charles and C. P. Dadant. If my memory is correct C. P. Dadant was the last survivor of the founders. He continued his membership for 47 years.

FRANK C. PELLETT.